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DATE: Friday, July 30, 2004

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		<i>DB=USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L1	hydroperoxide lyase	48

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☐ 1. Document ID: US 6627797 B1

Using default format because multiple data bases are involved.

L1: Entry 1 of 48

File: USPT

Sep 30, 2003

US-PAT-NO: 6627797

DOCUMENT-IDENTIFIER: US 6627797 B1

TITLE: Maize lipoxxygenase polynucleotide and methods of use

DATE-ISSUED: September 30, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Duvick; Jon	Des Moines	IA		
Maddox; Joyce R.	Omaha	NE		
Keller; Nancy P.	Madison	WI		

US-CL-CURRENT: 800/279; 435/320.1, 435/419, 435/430, 435/468, 536/23.2, 536/23.6, 536/24.1, 536/24.5, 800/278, 800/287, 800/295, 800/298, 800/306, 800/312, 800/314, 800/317.1, 800/317.3, 800/322

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KOMC	Draw D
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☐ 2. Document ID: US 6607882 B1

L1: Entry 2 of 48

File: USPT

Aug 19, 2003

US-PAT-NO: 6607882

DOCUMENT-IDENTIFIER: US 6607882 B1

TITLE: Regulation of endogenous gene expression in cells using zinc finger proteins

DATE-ISSUED: August 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cox, III; George N.	Louisville	CO		
Case; Casey C.	San Mateo	CA		
Eisenberg; Stephen P.	Boulder	CO		
Jarvis; Eric E.	Boulder	CO		
Spratt; Sharon K.	Vacaville	CA		

US-CL-CURRENT: 435/6; 435/320.1, 435/455, 435/468, 536/23.1, 536/23.4, 536/24.1

## ABSTRACT:

The present invention provides methods for modulating expression of endogenous cellular genes using recombinant zinc finger proteins.

32 Claims, 16 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 11

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 3. Document ID: US 6599692 B1

L1: Entry 3 of 48

File: USPT

Jul 29, 2003

US-PAT-NO: 6599692

DOCUMENT-IDENTIFIER: US 6599692 B1

TITLE: Functional genomics using zinc finger proteins

DATE-ISSUED: July 29, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Case; Casey C.	San Mateo	CA		
Zhang; Lei	San Francisco	CA		

US-CL-CURRENT: 435/4; 435/6, 536/23.1

## ABSTRACT:

The present invention provides methods of regulating gene expression using recombinant zinc finger proteins, for functional genomics and target validation applications.

55 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 4. Document ID: US 6534261 B1

L1: Entry 4 of 48

File: USPT

Mar 18, 2003

US-PAT-NO: 6534261

DOCUMENT-IDENTIFIER: US 6534261 B1

TITLE: Regulation of endogenous gene expression in cells using zinc finger proteins

DATE-ISSUED: March 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cox, III; George Norbert	Louisville	CO		
Case; Casey Christopher	San Mateo	CA		
Eisenberg; Stephen P.	Boulder	CO		
Jarvis; Eric Edward	Boulder	CO		
Spratt; Sharon Kaye	Vacaville	CA		

US-CL-CURRENT: 435/6; 435/29, 536/23.5, 536/24.1

ABSTRACT:

The present invention provides methods for modulating expression of endogenous cellular genes using recombinant zinc finger proteins.

85 Claims, 14 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw De
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☐ 5. Document ID: US 6515202 B1

L1: Entry 5 of 48

File: USPT

Feb 4, 2003

US-PAT-NO: 6515202

DOCUMENT-IDENTIFIER: US 6515202 B1

TITLE: Polynucleotides encoding monocot 12-oxo-phytodienoate reductases and methods of use

DATE-ISSUED: February 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Crane; Virginia C.	Des Moines	IA		
Duvick; Jon	Des Moines	IA		
Sharma; Yogesh K.	Maryland Heights	MO		
Crasta; Oswald R.	Clinton	CT		
Folkerts; Otto	Guilford	CT		

US-CL-CURRENT: 800/279; 435/189, 435/418, 435/419, 435/468, 536/23.2, 536/23.6, 536/24.5, 800/286, 800/287, 800/298, 800/301, 800/302, 800/306, 800/312, 800/314, 800/317.2, 800/320, 800/320.1, 800/320.2, 800/320.3, 800/322

ABSTRACT:

The invention relates to the genetic manipulation of plants, particularly to the expression of genes involved in oxylipin metabolism in plants. Nucleotide sequences encoding homologues of Old Yellow Enzyme, and inducible promoters and proteins thereof, are provided. The sequences find use in modifying oxylipin metabolism in plants, increasing the resistance of plants to stress, regulating gene expression in plants, and in the production of oxylipins in plants.

24 Claims, 6 Drawing figures

Exemplary Claim Number: 19

Number of Drawing Sheets: 4

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 6. Document ID: US 6444874 B1

L1: Entry 6 of 48

File: USPT

Sep 3, 2002

US-PAT-NO: 6444874

DOCUMENT-IDENTIFIER: US 6444874 B1

TITLE: Hydroperoxide lyase gene from maize and methods of use

DATE-ISSUED: September 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Duvick; Jon	Des Moines	IA		
Gilliam; Jacob	Norwalk	IA		

US-CL-CURRENT: 800/278; 435/412, 435/415, 435/416, 435/418, 435/419, 435/468,  
536/23.2, 536/23.6, 800/279, 800/281, 800/287, 800/306, 800/312, 800/317.1,  
800/320, 800/320.1, 800/320.2, 800/320.3, 800/322

ABSTRACT:

Compositions and methods for enhancing disease resistance, and modulating levels of flavor molecules in plants are provided. The compositions comprise nucleotide sequences encoding maize HPL genes. The methods comprise expressing hydroperoxide lyase (HPL) genes in plants, plant cells, and plant tissues. Expression cassettes comprising the HPL sequences of the invention are provided, as well as transformed plant cells, plant tissues, and plants.

17 Claims, 3 Drawing figures

Exemplary Claim Number: 10

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 7. Document ID: US 6436452 B1

L1: Entry 7 of 48

File: USPT

Aug 20, 2002

US-PAT-NO: 6436452

DOCUMENT-IDENTIFIER: US 6436452 B1

TITLE: Tomato products with increased fruity flavor

DATE-ISSUED: August 20, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Deutz; Inge Elisabeth	Vlaardingen			NL
Dunphy; Patrick Joseph	Sharnbrook			GB
van der Hijden; Hendrikus Theodorus	Sharnbrook			GB

US-CL-CURRENT: 426/52; 426/615

## ABSTRACT:

The invention relates to processing tomatoes into paste, sauce or related products, in which the processed products have an improved flavour. More in particular, the processed products have increased amounts of fruity flavour compounds. This is achieved by co-oxidation of carotenoids and polyunsaturated fatty acids, using an enzyme having lipoxygenase activity.

10 Claims, 0 Drawing figures

Exemplary Claim Number: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	K00C	Draw. D.
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☐ 8. Document ID: US 6274358 B1

L1: Entry 8 of 48

File: USPT

Aug 14, 2001

US-PAT-NO: 6274358

DOCUMENT-IDENTIFIER: US 6274358 B1

TITLE: Method for providing green note compounds

DATE-ISSUED: August 14, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Holtz; Richard Barry	Vacaville	CA	95688	
McCulloch; Michael Jay	Vacaville	CA	95687	
Garger; Stephen John	Vacaville	CA	95688	
Teague; Richard King	Merry Hill	NC	27957	
Phillips; Harriet Flannery	Edenton	NC	27932	

US-CL-CURRENT: 435/157; 424/725, 424/774, 426/650, 426/655, 435/155

## ABSTRACT:

Green note compound, such as cis-3-hexen-1-ol, is provided by subjecting linolenic acid and a fresh watermelon foliage to shearing in the presence of an aqueous liquid and yeast. Enzymes within the plant material (i.e., lipoxygenase and hydroperoxide lyase) and the yeast act to cause the linolenic acid to be converted to green note alcohol at a relatively high yield. Green note compound can be provided naturally using a continuous or batch process.

20 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw. D
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☐ 9. Document ID: US 6271018 B1

L1: Entry 9 of 48

File: USPT

Aug 7, 2001

US-PAT-NO: 6271018

DOCUMENT-IDENTIFIER: US 6271018 B1

TITLE: Muskmelon (Cucumis melo) hydroperoxide lyase and uses thereof

DATE-ISSUED: August 7, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brash; Alan	Brentwood	TN		
Tijet; Nathalie	Tucson	AZ		
Whitehead; Ian M.	Singapore			SG

US-CL-CURRENT: 435/252.3; 435/232, 435/252.31, 435/252.32, 435/252.33, 435/254.2, 435/320.1, 435/325, 435/348, 435/419, 536/23.2

ABSTRACT:

The present invention provides a fatty acid lyase, wherein the activity of the lyase for 9-hydroperoxide substrates is greater than the activity for 13-hydroperoxide substrates and wherein K.sub.m and V.sub.max of the lyase for 9-hydroperoxylinolenic acid are greater than K.sub.m and V.sub.max of the lyase for 9-hydroperoxylinoleic acid. More particularly, the invention provides a lyase present in melon (Cucumis melo). The invention also provides a nucleic acid encoding the lyase, vectors, and expression systems with which the recombinant lyase can be obtained. The invention also provides methods of using the lyase of the invention, including methods of cleaving 9-hydroperoxylinoleic acid, 9-hydroperoxylinolenic acid, 13-hydroperoxylinoleic acid, and 13-hydroperoxylinolenic acid. Also, the invention provides a method of preparing 3-(Z)-nonenal, (3Z,6Z)-nonadienal, 2-(E)-nonenal, (2E,6Z)-nonadienal, or their corresponding alcohols and a method of preparing n-hexanal, 3-(Z)-hexen-1-al, 2-(E)-hexen-1-al, or their corresponding alcohols using the lyase of the present invention.

11 Claims, 13 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 13

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 10. Document ID: US 6238898 B1

L1: Entry 10 of 48

File: USPT

May 29, 2001

US-PAT-NO: 6238898

DOCUMENT-IDENTIFIER: US 6238898 B1

TITLE: Hydroperoxide lyases

DATE-ISSUED: May 29, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hausler; Alex	Schwerzenbach			CH
Lerch; Konrad	Pfaffhausen			CH
Muheim; Andreas	Zurich			CH
Silke; Natasha	Zurich			CH

US-CL-CURRENT: 435/155; 435/157, 435/232, 435/252.33, 435/254.11, 435/254.21,  
536/23.2

## ABSTRACT:

The present invention relates to the production of HPO lyase proteins in hosts via recombinant expression of said proteins. Recombinant HPO lyase proteins, DNA sequences encoding these proteins, vectors containing these DNA sequences and hosts containing these vectors are provided, along with methods for recombinantly producing such proteins, DNA sequences, vectors and hosts. Also provided are processes for producing green note compounds.

2 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 11. Document ID: US 6200794 B1

L1: Entry 11 of 48

File: USPT

Mar 13, 2001

US-PAT-NO: 6200794

DOCUMENT-IDENTIFIER: US 6200794 B1

**\*\* See image for Certificate of Correction \*\***TITLE: Guava (Psidium guajava) 13-hydroperoxide lyase and uses thereof

DATE-ISSUED: March 13, 2001

## INVENTOR-INFORMATION:



NAME	CITY	STATE	ZIP CODE	COUNTRY
Whitehead; Ian Michael	Geneva			CH
Slusarenko; Alan John	Hergenrath			BE
Waspi; Urs	Zurich			CH
Gaskin; Duncan James Horatio	Reading			GB
Brash; Alan Richard	Brentwood	TN		
Tijet; Nathalie	Nashville	TN		

US-CL-CURRENT: 435/232; 435/252.3, 435/252.33, 435/254.11, 435/254.2, 435/320.1,  
435/325, 435/410, 536/23.1, 536/23.2, 536/23.6

## ABSTRACT:

The present invention relates to fatty acid 13-hydroperoxide lyase protein from guava (Psidium guajava) and the gene encoding the protein. Expression systems for recombinant guava 13-hydroperoxide lyase and methods of using recombinant guava 13-hydroperoxide lyase for the production of green notes are provided.

41 Claims, 2 Drawing figures  
Exemplary Claim Number: 1  
Number of Drawing Sheets: 4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	MMIC	Draw. D
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☐ 12. Document ID: US 6150145 A

L1: Entry 12 of 48

File: USPT

Nov 21, 2000

US-PAT-NO: 6150145

DOCUMENT-IDENTIFIER: US 6150145 A

TITLE: Process for the production of degradation products of fatty acids

DATE-ISSUED: November 21, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hausler; Alex	Madeira	OH		
Ehret; Charles	Wetzikon			CH
Binggeli; Eva	Pfaffhausen			CH

US-CL-CURRENT: 435/147; 435/155, 568/449, 568/910

## ABSTRACT:

Fatty acid degradation products are over-produced by oxidative biochemical degradation of a plant biomass containing unsaturated fatty acids and enzymes for the degradation in the presence of additional unsaturated fatty acids. These degradation products are natural flavour and fragrance ingredients.

16 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw. De
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☐ 13. Document ID: US 6008034 A

L1: Entry 13 of 48

File: USPT

Dec 28, 1999

US-PAT-NO: 6008034

DOCUMENT-IDENTIFIER: US 6008034 A

**\*\* See image for Certificate of Correction \*\***TITLE: Hydroperoxide lyases

DATE-ISSUED: December 28, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hausler; Alex	Schwerzenbach			CH
Lerch; Konrad	Pfaffhausen			CH
Muheim; Andreas	Zurich			CH
Silke; Natasha	Zurich			CH

US-CL-CURRENT: 435/232; 435/252.3, 435/252.33, 435/254.2, 435/320.1, 435/348,  
435/410, 536/23.2, 536/23.6

## ABSTRACT:

The present invention relates to the production of HPO lyase proteins in hosts via recombinant expression of said proteins. Recombinant HPO lyase proteins, DNA sequences encoding these proteins, vectors containing these DNA sequences and hosts containing these vectors are provided, along with methods for recombinantly producing such proteins, DNA sequences, vectors and hosts. Also provided are processes for producing green note compounds.

10 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw. De
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☐ 14. Document ID: US 5942661 A

L1: Entry 14 of 48

File: USPT

Aug 24, 1999

US-PAT-NO: 5942661

DOCUMENT-IDENTIFIER: US 5942661 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Method of inhibiting mycotoxin production in seed crops by modifying

lipoxygenase pathway genes

DATE-ISSUED: August 24, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Keller; Nancy P.	College Station	TX		

US-CL-CURRENT: 800/298; 435/320.1, 435/419, 435/468, 435/69.1, 536/23.6, 536/24.1, 800/295, 800/301

## ABSTRACT:

A method of inhibiting the production of mycotoxins of fungus, such as aflatoxin-producing and sterigmatocystin-producing fungi, in plants susceptible to contamination by such mycotoxins consists of introducing into the susceptible plant a gene encoding for lipoxygenase pathway enzyme of the mycotoxin. Exemplary of the lipoxygenase pathway enzymes are soybean lipoxygenase, allene oxidase, hydroperoxide lyase and hydroperoxide dehydratase. The resulting transgenic plant demonstrates substantial resistance to mycotoxin contamination of such fungus. Plants which are substantially resistant to mycotoxin contamination of *Aspergillus* spp. are further obtained by incorporating into mycotoxin susceptible plant antisense genes for the 9-hydroperoxide fatty acid producing lipoxygenases.

20 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw De
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☐ 15. Document ID: US 5844121 A

L1: Entry 15 of 48

File: USPT

Dec 1, 1998

US-PAT-NO: 5844121

DOCUMENT-IDENTIFIER: US 5844121 A

TITLE: Method of inhibiting mycotoxin production in seed crops by modifying lipoxygenase pathway genes

DATE-ISSUED: December 1, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Keller; Nancy P.	College Station	TX		

US-CL-CURRENT: 800/279; 435/320.1, 435/419, 435/69.1, 536/24.1, 800/301

## ABSTRACT:

A method of inhibiting the production of mycotoxins of fungus, such as aflatoxin-producing and sterigmatocystin-producing fungi, in plants susceptible to contamination by such mycotoxins consists of introducing into the susceptible plant a gene encoding for lipoxygenase pathway enzyme of the mycotoxin. Exemplary of the

lipoxygenase pathway enzymes are soybean lipoxygenase, allene oxidase, hydroperoxide lyase and hydroperoxide dehydratase. The resulting transgenic plant demonstrates substantial resistance to mycotoxin contamination of such fungus. Plants which are substantially resistant to mycotoxin contamination of *Aspergillus* spp. are further obtained by incorporating into mycotoxin susceptible plant antisense genes for the 9-hydroperoxide fatty acid producing lipoxygenases.

9 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 16. Document ID: US 5712132 A

L1: Entry 16 of 48

File: USPT

Jan 27, 1998

US-PAT-NO: 5712132

DOCUMENT-IDENTIFIER: US 5712132 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Method for the enzymatic preparation of aromatic substances

DATE-ISSUED: January 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mane; Jean	Grasse			FR
Zucca; Joseph	Antibes			FR

US-CL-CURRENT: 435/147; 435/189

ABSTRACT:

A method for preparing aromatic substances having formula (I), wherein a substrate of formula (II) or an isomer of these precursors, also termed a substrate, in particular selected from those of formula (III), in which formulae R.sub.1 may be a --CH<sub>3</sub>, --CH<sub>2</sub>OH, --CHO, --COOH, or (a) radical, R.sub.2 may be a --H, --OH or --O--CH<sub>3</sub> radical R.sub.3 may be a --H, --OH or --O--CH<sub>3</sub> radical, and R.sub.2 and R.sub.3 may form a methylenedioxy bridge (b), is exposed to the activity of a lipoxygenase. ##STR1##

20 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 17. Document ID: US 5705372 A

L1: Entry 17 of 48

File: USPT

Jan 6, 1998

US-PAT-NO: 5705372

DOCUMENT-IDENTIFIER: US 5705372 A

TITLE: Enzymatic process for the preparation of flavours, in particular the ionones and C.sub.6 to C.sub.10 aldehydes

DATE-ISSUED: January 6, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Belin; Jean-Marc	Fontaine-Les-Dijon			FR
Dumont; Benoit	Gissey Sur Ouche			FR
Ropert; Fran.cedilla.oise	Les Martres De Veyre			FR

US-CL-CURRENT: 435/123; 435/125, 435/126, 435/147, 435/148, 435/67

## ABSTRACT:

The present invention relates to a novel enzymatic process for the preparation of flavors, in particular of the ionones and C.sub.6 to C.sub.10 aldehydes. The invention discloses a process for the preparation of optically active alpha ionone, beta ionone, C.sub.6 aldehydes such as n-hexanal, trans-2-hexanal, C.sub.10 aldehydes such as trans-2, cis-4-decadidienal, and trans-2, trans-4-decadienal. The invention also relates to a process for the production of alcohols, particularly C.sub.6 and C.sub.10 alcohols.

6 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw. De
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☐ 18. Document ID: US 5695973 A

L1: Entry 18 of 48

File: USPT

Dec 9, 1997

US-PAT-NO: 5695973

DOCUMENT-IDENTIFIER: US 5695973 A

TITLE: Isolated alcohol dehydrogenase producing mold

DATE-ISSUED: December 9, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Subbiah; Ven	Edenton	NC		

US-CL-CURRENT: 435/155; 426/52, 435/134, 435/254.1, 435/911

## ABSTRACT:

The present invention relates to a microorganism capable of producing alcohol

dehydrogenase (ADH). The microorganism of the invention is a non-yeast mold obtained from the kale plant. In a preferred embodiment of the invention, the mold is *Geotrichium candidum* IMI 369326. The microorganism of the invention is particularly useful in the green note processing industry as a substitute for yeast. For example, the microorganism is useful as a substitute for yeast in a process of converting a leaf aldehyde to a leaf alcohol.

11 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. De
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☐ 19. Document ID: US 5681738 A

L1: Entry 19 of 48

File: USPT

Oct 28, 1997

US-PAT-NO: 5681738

DOCUMENT-IDENTIFIER: US 5681738 A

TITLE: Use of 10-oxo-trans-8-decenoic acid in mushroom cultivation

DATE-ISSUED: October 28, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beelman; Robert B.	State College	PA		
Ziegler; Gregory R.	State College	PA		
Mau; Jeng-Leun	State College	PA		

US-CL-CURRENT: 435/254.1; 47/1.1, 504/201, 504/321, 71/24, 71/5, 71/901, 71/904

ABSTRACT:

Provided is a method for the use of 10-oxo-trans-8-decenoic acid (ODA) as a fungal growth hormone to stimulate mycelial growth of cultivated mushrooms. A species of cultivated mushroom is selected and grown in a solid or liquid growth medium which has been supplemented with ODA to a concentration of 10.sup.-7 M to about 10.sup.-4 M. After culturing the mushroom the mycelium of cultivated mushroom is harvested. In addition to a method of using ODA, a method for the hormonal stimulation of fruiting in cultivated mushrooms is also disclosed. The ODA in this method is added to the casing layer of the compost which is mixed with mushroom spawn. Further, the ODA is added to the casing layer in aqueous solution after casing the compost.

4 Claims, 14 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 12

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. De
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☐ 20. Document ID: US 5620879 A

L1: Entry 20 of 48

File: USPT

Apr 15, 1997

US-PAT-NO: 5620879

DOCUMENT-IDENTIFIER: US 5620879 A

TITLE: Process for producing natural cis-3-hexenol from unsaturated fatty acids

DATE-ISSUED: April 15, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brunerie; Pascal	94440 Santeny			FR
Koziet; Yvette	94350 Villiers sur Marne			FR

US-CL-CURRENT: 435/155; 435/147, 435/192

## ABSTRACT:

The present invention relates to a process for producing cis-3-hexen-1-ol from an unsaturated fatty acid, in which said synthesis is carried out from the latter by the combined action of a natural system of enzyme(s) allowing the oxidation of said fatty acid to cis-3-hexenal and of a yeast allowing the reduction of cis-3-hexenal to cis-3-hexenol in a culture medium. According to a first characteristic of the present invention, the enzymatic system consists of a plant mass obtained by grinding leaves harvested whole without predilacerating them. According to a second characteristic of the present invention, the enzymatic system is introduced in the form of a ground cellular product obtained by grinding followed by cell disintegration. Finally, advantageously, a reagent chosen from a ferrous cation, acetylsalicylic acid, chlorophyll B and the enzyme catalase, makes it possible to increase the yields of cis-3-hexenol.

13 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs	Generate OACS
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Terms	Documents
hydroperoxide lyase	48

Display Format:  [Previous Page](#)[Next Page](#)[Go to Doc#](#)

## Hit List

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Generate OACS				

Search Results - Record(s) 21 through 40 of 48 returned.

☐ 21. Document ID: US 5114734 A

**Using default format because multiple data bases are involved.**

L1: Entry 21 of 48

File: USPT

May 19, 1992

US-PAT-NO: 5114734

DOCUMENT-IDENTIFIER: US 5114734 A

TITLE: Mushroom flavorant

DATE-ISSUED: May 19, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kibler; Lawrence A.	New Milford	CT		
Kratky; Zdenek	New Milford	CT		
Tandy; John S.	Litchfield	CT		

US-CL-CURRENT: 426/650; 426/49, 426/615, 426/7

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 22. Document ID: US 5017386 A

L1: Entry 22 of 48

File: USPT

May 21, 1991

US-PAT-NO: 5017386

DOCUMENT-IDENTIFIER: US 5017386 A

TITLE: Method of reducing odor associated with hexanal production in plant products

DATE-ISSUED: May 21, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hildebrand; David F.	Lexington	KY		
Kemp; Thomas R.	Lexington	KY		
Andersen; Roger	Lexington	KY		
Loughrin; John H.	Alton	KY		

US-CL-CURRENT: 426/18; 426/31, 426/46



## ABSTRACT:

A method of reducing the formation of hexanal by plant parts comprises breaking the plant parts, adding thereto an agent comprising lipoxygenase 3 enzyme and allowing the plant parts to remain in contact with the enzyme under conditions effective to attain the desired effect. A method of producing a low odor plant part meal or flour comprises breaking up the plant parts, adding an agent with lipoxygenase 3 enzyme and allowing the plant parts to remain in contact with the enzyme under conditions effective to attain the desired effect. An improved composition comprises a hexanal producing plant part meal or flour and an agent with lipoxygenase 3 enzyme which is substantially devoid of lipoxygenase enzyme 1 and 2 activities, optionally with other edible ingredients such as other low-hexanal producing flours. Improved edible products are produced using the invention which have less objectionable odor and flavor. This invention facilitates better tailoring of the flavor of food products to the desires of the consumers.

20 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Dv
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☐ 23. Document ID: JP 11221091 A

L1: Entry 23 of 48

File: JPAB

Aug 17, 1999

PUB-NO: JP411221091A

DOCUMENT-IDENTIFIER: JP 11221091 A

TITLE: PRODUCTION OF FATTY ACID DEGRADATION PRODUCT

PUBN-DATE: August 17, 1999

## INVENTOR-INFORMATION:

NAME

COUNTRY

HAEUSLER, ALEX DR

EHRET, CHARLES DR

BINGGELI, EVA

INT-CL (IPC): C12 P 7/04; A61 K 7/46; C07 C 33/02; C07 C 47/02; C11 B 9/00

## ABSTRACT:

PROBLEM TO BE SOLVED: To produce the subject product usable as natural flavor and fragrance components or the like by oxidatively and biologically degrading a plant biomass including an unsaturated fatty acid and an enzyme for the oxidative degradation in the presence of the additional unsaturated fatty acid.

SOLUTION: This method for producing a fatty acid degradation product by an oxidative biological degradation of an unsaturated fatty acid comprises subjecting a plant biomass (e.g. pulverized leaves of violet) including the unsaturated fatty acid and an enzyme such as lipoxygenase and hydroperoxide lyase for oxidative degradation of the unsaturated fatty acid to an oxidative biodegradation in the presence of the additional unsaturated fatty acid (e.g. linolenic acid) to provide the objective fatty acid degradation product of natural flavor and fragrance

components. The fatty acid degradation product is exemplified by an aliphatic 9C aldehyde (e.g. trans-2-cis-6-nonadienal) and a 9C alcohol (e.g. trans-2-cis-6-nonadinen-1-ol).

COPYRIGHT: (C)1999,JPO

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RMIC	Draw. D
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☐ 24. Document ID: JP 10033185 A

L1: Entry 24 of 48

File: JPAB

Feb 10, 1998

PUB-NO: JP410033185A

DOCUMENT-IDENTIFIER: JP 10033185 A

TITLE: HYDROPEROXIDE LYASE

PUBN-DATE: February 10, 1998

INVENTOR-INFORMATION:

NAME

COUNTRY

HAEUSLER, ALEX

LERCH, KONRAD

MUHEIM, ANDREAS

SILKE, NATASHA

INT-CL (IPC): C12 N 15/09; A23 L 1/226; C07 H 21/04; C12 N 1/19; C12 N 9/88; C12 P 7/04

ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a new DNA coding a protein having a hydroperoxide lyase activity, and useful for producing an enzyme used for synthesizing green smell compounds used for flavoring agents, spices, etc., comprising volatile flavors and aromatic molecules, etc.

SOLUTION: A new isolated DNA or its fragment codes a protein having a hydroperoxide lyase activity, and is used for producing green smell compounds such as volatile flavors and aromatic molecules useful for flavoring agent compositions, spice compositions, etc. The DNA or its fragment is obtained by making a cDNA library with an RNA obtained from the leaves of banana by a conventional method, screening the library with the radioactive fragment of a hydroperoxide lyase gene as a probe by a DNA hybridization method, isolating a positive clone, recovering the DNA, and subsequently treating the recovered DNA with restriction enzymes.

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	RMIC	Draw. D
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☐ 25. Document ID: WO 2004001066 A1

L1: Entry 25 of 48

File: EPAB

Dec 31, 2003

PUB-NO: WO2004001066A1

DOCUMENT-IDENTIFIER: WO 2004001066 A1

TITLE: METHOD OF SCREENING MALT AND PROCESS FOR PRODUCING FOAMING MALT BEVERAGE

PUBN-DATE: December 31, 2003

## INVENTOR-INFORMATION:

NAME	COUNTRY
KURODA, HISAO	JP
FURUSHO, SHIGEKI	JP
KOJIMA, HIDETOSHI	JP

INT-CL (IPC): C12 Q 1/527; G01 N 33/50; G01 N 33/15; C12 C 1/16

EUR-CL (EPC): C12C001/00

## ABSTRACT:

CHG DATE=20040128 STATUS=O>A method of screening malts, characterized by determining the fatty acid hydroperoxide-lyase activity of the malts; and a process for producing a foaming malt beverage, characterized by using a malt which has low fatty acid hydroperoxide-lyase activity and has been selected by the screening method.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. D
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☐ 26. Document ID: WO 194606 A2

L1: Entry 26 of 48

File: EPAB

Dec 13, 2001

PUB-NO: WO000194606A2

DOCUMENT-IDENTIFIER: WO 194606 A2

TITLE: METHOD FOR PRODUCING C9 ALDEHYDES, C9 ALCOHOLS AND ESTERS THEREOF

PUBN-DATE: December 13, 2001

## INVENTOR-INFORMATION:

NAME	COUNTRY
BERNDT, EKKEHART	DE
FEUSSNER, IVO	DE

INT-CL (IPC): C12 P 7/02; C12 P 7/24; C12 P 7/62

EUR-CL (EPC): C12N009/88; C12P007/04, C12P007/24 , C12P007/62

## ABSTRACT:

CHG DATE=20020202 STATUS=O>The invention relates to a method for producing C9 aldehydes, C9 alcohols and esters thereof. Said method is based on the reaction of multiple unsaturated fatty acids with recombinant 9-lipoxygenase (9-LOX) and 13-hydroperoxide lyase (13-HPL).

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 27. Document ID: WO 9958648 A2

L1: Entry 27 of 48

File: EPAB

Nov 18, 1999

PUB-NO: WO009958648A2

DOCUMENT-IDENTIFIER: WO 9958648 A2

TITLE: GUAVA (PSIDIUM GUAJAVA) 13-HYDROPEROXIDE LYASE AND USES THEREOF

PUBN-DATE: November 18, 1999

## INVENTOR-INFORMATION:

NAME

COUNTRY

WHITEHEAD, IAN MICHAEL

SLUSARENKO, ALAN JOHN

WASPI, URS

GASKIN, DUNCAN JAMES HORATIO

BRASH, ALAN RICHARD

TIJET, NATHALIE

INT-CL (IPC): C12 N 9/00

EUR-CL (EPC): C12N009/88

## ABSTRACT:

CHG DATE=20000103 STATUS=O>The present invention relates to fatty acid 13-hydroperoxide lyase protein from guava (Psidium guajava) and the gene encoding the protein. Expression systems for recombinant guava 13-hydroperoxide lyase and methods of using recombinant guava 13-hydroperoxide lyase for the production of green notes are provided.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 28. Document ID: EP 801133 A2

L1: Entry 28 of 48

File: EPAB

Oct 15, 1997

PUB-NO: EP000801133A2

DOCUMENT-IDENTIFIER: EP 801133 A2

TITLE: Hydroperoxide lyases

PUBN-DATE: October 15, 1997

## INVENTOR-INFORMATION:

NAME

COUNTRY

HAEUSLER, ALEX

CH

LERCH, KONRAD

CH

MUHEIM, ANDREAS

CH

SILKE, NATASHA

CH

INT-CL (IPC): C12 N 15/60; C12 N 1/19; C12 N 9/88; C12 P 7/24; C12 P 7/40; C12 P 7/04; C11 B 9/00

EUR-CL (EPC): C11B009/00; C12N009/02, C12N009/88 , C12P007/04 , C12P007/24

## ABSTRACT:

CHG DATE=19990617 STATUS=O> The present invention relates to the production of HPO lyase proteins in hosts via recombinant expression of said proteins. Recombinant HPO lyase proteins, DNA sequences encoding these proteins, vectors containing these DNA sequences and hosts containing these vectors are provided, along with methods for recombinantly producing such proteins, DNA sequences, vectors and hosts. Also provided are processes for producing green note compounds.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw D
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☐ 29. Document ID: WO 9726364 A1

L1: Entry 29 of 48

File: EPAB

Jul 24, 1997

PUB-NO: WO009726364A1

DOCUMENT-IDENTIFIER: WO 9726364 A1

TITLE: METHOD OF INHIBITING MYCOTOXIN PRODUCTION IN SEED CROPS BY MODIFYING  
LIPOXYGENASE PATHWAY GENES

PUBN-DATE: July 24, 1997

## INVENTOR-INFORMATION:

NAME

COUNTRY

KELLER, NANCY P

INT-CL (IPC): C12 N 15/82; C12 N 15/29; C12 N 9/02; A01 H 5/00

EUR-CL (EPC): C12N015/82; C12N009/02

## ABSTRACT:

A method of inhibiting the production of mycotoxins of fungus, such as aflatoxin-producing and sterigmatocystin-producing fungi, in plants susceptible to contamination by such mycotoxins consists of introducing into the susceptible plant a gene encoding for lipoxxygenase pathway enzyme of the mycotoxin. Exemplary of the lipoxxygenase pathway enzymes are soybean lipoxxygenase, allene oxidase, hydroperoxide lyase and hydroperoxide dehydratase. The resulting transgenic plant demonstrates substantial resistance to mycotoxin contamination of such fungus. Plants which are substantially resistant to mycotoxin contamination of *Aspergillus* spp. are further obtained by incorporating into mycotoxin susceptible plant antisense genes for the 9-hydroperoxide fatty acid producing lipoxxygenases.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw D
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☐ 30. Document ID: WO 9526413 A1

L1: Entry 30 of 48

File: EPAB

Oct 5, 1995

PUB-NO: WO009526413A1

DOCUMENT-IDENTIFIER: WO 9526413 A1

TITLE: METHOD FOR PROVIDING GREEN NOTE COMPOUNDS

PUBN-DATE: October 5, 1995

## INVENTOR-INFORMATION:

NAME	COUNTRY
HOLTZ, RICHARD BARRY	US
MCCULLOCH, MICHAEL JAY	US
GARGER, STEPHEN JOHN	US
TEAGUE, RICHARD KING	US
PHILLIPS, HARRIET FLANNERY	US

INT-CL (IPC): C12 P 7/04

EUR-CL (EPC): C12P007/04; C12P007/24

## ABSTRACT:

CHG DATE=19990617 STATUS=O>Green note compound, such as cis-3-hexen-1-ol, is provided by subjecting linolenic acid and a fresh watermelon foliage to shearing in the presence of an aqueous liquid and yeast. Enzymes within the plant material (i.e., lipoxygenase and hydroperoxide lyase) and the yeast act to cause the linolenic acid to be converted to green note alcohol at a relatively high yield. Green note compound can be provided naturally using a continuous or batch process.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw. Des
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☐ 31. Document ID: US 20040010822 A1

L1: Entry 31 of 48

File: DWPI

Jan 15, 2004

DERWENT-ACC-NO: 2004-090565

DERWENT-WEEK: 200409

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TITLE: New polynucleotide encoding hydroperoxide lyases, useful in producing aldehyde used in aroma and/or food industry

INVENTOR: MCGONIGLE, B

PRIORITY-DATA: 2002US-379424P (May 10, 2002), 2003US-0434991 (May 9, 2003)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
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US 20040010822 A1

January 15, 2004

033

A01H001/00

INT-CL (IPC): A01 H 1/00; C07 H 21/04; C12 N 5/04; C12 N 9/88; C12 N 15/82

ABSTRACTED-PUB-NO: US20040010822A

BASIC-ABSTRACT:

NOVELTY - A new isolated polynucleotide (I) comprising a nucleotide sequence:

(i) encoding a polypeptide having hydroperoxide lyase activity, where the polypeptide comprises a sequence of 474, 478 or 487 amino acids (SEQ ID NOS: 2, 4 or 6) or a sequence at least 80% sequence identity based on the Clustal alignment method; or

(ii) complementary to (i).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) a vector comprising (I);
- (2) a recombinant DNA construct comprising (I) operably linked to at least one regulatory sequence;
- (3) a method for transforming a cell;
- (4) a cell comprising the recombinant DNA construct of (3);
- (5) a method for producing a plant;
- (6) a plant comprising the recombinant DNA construct of (2);
- (7) a seed comprising the recombinant DNA construct of (2);
- (8) an isolated polypeptide, having hydroperoxide lyase activity, comprising (i) SEQ ID NOS: 2, 4 or 6 or a sequence at least 80% identity to (ii) based on the Clustal alignment method;
- (9) a method for isolating a polypeptide having hydroperoxide lyase activity; and
- (10) a method for producing at least one volatile aldehyde.

USE - The polynucleotide and polypeptides are useful in producing aldehyde used in aroma and/or food industry.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	Knowl	Draw D
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☐ 32. Document ID: JP 2004016202 A, WO 2004001066 A1

L1: Entry 32 of 48

File: DWPI

Jan 22, 2004

DERWENT-ACC-NO: 2004-071742

DERWENT-WEEK: 200410

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TITLE: Malt screening method comprises evaluating activity of fatty acid  
hydroperoxide-lyase in malt

INVENTOR: FURUSHO, S; KOJIMA, H ; KURODA, H

PRIORITY-DATA: 2002JP-0180315 (June 20, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>JP 2004016202 A</u>	January 22, 2004		012	C12Q001/527
<u>WO 2004001066 A1</u>	December 31, 2003	J	024	C12Q001/527

INT-CL (IPC): C12 C 1/00; C12 C 1/16; C12 G 3/02; C12 Q 1/527; G01 N 33/15; G01 N 33/50

ABSTRACTED-PUB-NO: WO2004001066A

BASIC-ABSTRACT:

NOVELTY - Malt screening method comprises evaluating activity of fatty acid hydroperoxide-lyase in malt.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the preparation of a malt fizzy drink.

USE - For screening malt used in the preparation of malt fizzy drinks.

ADVANTAGE - The malt having low fatty acid hydroperoxide-lyase activity is used so that the generation of decomposed product of aged substances is controlled thereby improving the resistance to aging of the drink.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	Keywords	Drawings
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☐ 33. Document ID: JP 2003339260 A

L1: Entry 33 of 48

File: DWPI

Dec 2, 2003

DERWENT-ACC-NO: 2004-039487

DERWENT-WEEK: 200404

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TITLE: A transformed plant in which hydroperoxide lyase gene coding for volatile biosynthesis hydroperoxide lyase is transduced in sense or antisense direction, useful in insect-extermination

PRIORITY-DATA: 2002JP-0153094 (May 27, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>JP 2003339260 A</u>	December 2, 2003		020	A01H005/00

INT-CL (IPC): A01 H 5/00; C12 N 15/09

ABSTRACTED-PUB-NO: JP2003339260A

BASIC-ABSTRACT:

NOVELTY - A transformed plant (I) in which a hydroperoxide lyase (HPL) gene coding for a volatile biosynthesis HPL enzyme is transduced in the sense/antisense



direction, where activity of the HPL enzyme is improved or reduced compared to wild-type plant, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for an insect-extermination method (M1) using (I).

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - (I) is useful in insect-extermination method (claimed).

ADVANTAGE - (I) efficiently exterminates an insect pest and also effectively inhibits growth of an insect pest. (I) reduces the usage of an agrochemical.

DESCRIPTION OF DRAWING(S) - The figure shows the hydroperoxide lyase (HPL) activity in an HPL sense strain and a wild strain.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. De
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☐ 34. Document ID: DE 10129338 A1, WO 2002103023 A2

L1: Entry 34 of 48

File: DWPI

Mar 20, 2003

DERWENT-ACC-NO: 2003-175240

DERWENT-WEEK: 200321

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TITLE: Enzymatic production of 9 carbon aldehyde, alcohol or ester, useful as perfume or flavoring, also to increase plant resistance to bacteria and fungi

INVENTOR: FEUSSNER, I; STUMPE, M

PRIORITY-DATA: 2001DE-1029338 (June 19, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 10129338 A1	March 20, 2003		000	C12N015/52
WO 2002103023 A2	December 27, 2002	G	046	C12P000/00

INT-CL (IPC): C12 N 15/52; C12 P 0/00

ABSTRACTED-PUB-NO: WO2002103023A

BASIC-ABSTRACT:

NOVELTY - Enzymatic preparation of 9C aldehydes (I), alcohols (II) or esters (IIa) of (II) from C18 polyunsaturated fatty acids (III) that have double bonds at least at positions Delta 9 and Delta 12, is new.

DETAILED DESCRIPTION - Enzymatic preparation of 9C aldehydes (I), alcohols (II) or esters (IIa) or (II) from C18 polyunsaturated fatty acids (III) that have double bonds at least at positions Delta 9 and Delta 12 comprises first preparing nucleic acids that encode plant or microbial proteins with 9-lipoxygenase (9LOX) and 9-divinylether synthase (9DES) activities. These sequences are expressed in eukaryotic or prokaryotic cells and the resulting 9LOX used to convert (III) to

their 9-hydroperoxides (IIIa), and these converted to divinyl ethers (IIIb) using recombinant 9DES. (IIIb) is converted to (2E)-(I) and this optionally reduced to (II), itself optionally converted to (IIa), particularly with acetic acid. INDEPENDENT CLAIMS are also included for the following:

- (1) Preparation of transgenic plants, or their cells, with altered contents of (I), (II) and (IIa) by incorporating a sequence that encodes 9DES; and
- (2) Transgenic plants prepared by method (1), also their cells, harvested products, replicative material (protoplasts, calli, seeds, tubers and cuttings) and descendants.

ACTIVITY - Plant Antibacterial; Plant Antifungal.

No details of tests for these activities are given.

MECHANISM OF ACTION - None given.

USE - The method is used:

(i) to increase production of (I), (II) and (IIa) in plants, to improve their resistance to bacteria and fungi (claimed) also to increase their content of flavor components; and

(ii) to prepare (I), (II) and (IIa) for use as perfumes and flavorings.

ADVANTAGE - The method is simple, does not require a 9-hydroperoxide lyase, and produces exclusively the stable (2E) isomers.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	RWMC	Draw D
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☐ 35. Document ID: AU 2002311005 A1, WO 200286114 A1, EP 1383874 A1

L1: Entry 35 of 48

File: DWPI

Nov 5, 2002

DERWENT-ACC-NO: 2003-129116

DERWENT-WEEK: 200433

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TITLE: Novel fungal lipoxygenase from *Magnaporthe salvinii*, useful for preparing dough or baked product, for green flavor synthesis or plant hormone synthesis, or in detergents

INVENTOR: SUGIO, A; TAKAGI, S

PRIORITY-DATA: 2001DK-0000631 (April 20, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>AU 2002311005 A1</u>	November 5, 2002		000	C12N009/02
<u>WO 200286114 A1</u>	October 31, 2002	E	013	C12N009/02
<u>EP 1383874 A1</u>	January 28, 2004	E	000	C12N009/02

INT-CL (IPC): A21 D 8/04; C11 D 3/386; C12 N 9/02; C12 N 15/53; C12 N 15/63; C12 P 7/64

ABSTRACTED-PUB-NO: WO 200286114A  
BASIC-ABSTRACT:

NOVELTY - A lipoxygenase (I) selected from a polypeptide encoded by a DNA sequence cloned into plasmid pUC19 present in *Escherichia coli* deposited as DSM 14139, a polypeptide having a sequence as the mature peptide with a 600 amino acid sequence (S1), or which can be obtained from it by substitution, deletion, and/or insertion of one or more amino acids, or an analog of above mentioned polypeptides, is new.

DETAILED DESCRIPTION - A lipoxygenase (I) selected from:

(A) a polypeptide encoded by a DNA sequence cloned into plasmid pUC19 present in *Escherichia coli* deposited as DSM 14139;

(B) a polypeptide having a sequence as the mature peptide having a sequence (S1) of 600 amino acids fully defined in the specification, or which can be obtained from it by substitution, deletion, and/or insertion of one or more amino acids;

(C) an analog of above mentioned polypeptides which:

(i) has at least 50% homology with the polypeptide;

(ii) is immunologically reactive with an antibody raised against the polypeptide in purified form; or

(iii) is an allelic variant of the polypeptide; or

(D) a polypeptide encoded by DNA that hybridizes under low stringency conditions with a complementary strand of:

(i) DNA sequence cloned into plasmid pUC19 present in *E. coli* deposited as DSM 14139; or

(ii) DNA sequence (S2) comprising 1973 base pairs fully defined in the specification encoding the mature polypeptide or its subsequence having at least 100 nucleotides.

INDEPENDENT CLAIMS are also included for the following:

(1) DNA (II) comprising a nucleic acid sequence which encodes (I);

(2) a nucleic acid construct (III) comprising (II) operably linked to one or more control sequences capable of directing the expression of (I) in a suitable expression host;

(3) a recombinant expression vector (IV) comprising (III), a promoter, and transcriptional and translational stop signals;

(4) a recombinant host cell (V) comprising (III) or (IV);

(5) an oligonucleotide probe (VI) which consists of at least 20 nucleotides and which encodes a partial polypeptide comprising a sequence of 617 amino acids fully defined in the specification;

(6) production of (I);

(7) a dough composition (VII) comprising (I); and

(8) a detergent composition (VIII) comprising a surfactant and (I).

USE - (I) is useful for preparing a dough or a baked product made from dough, by adding (I) to the dough. (I) is useful for oxidizing a polyunsaturated fatty acid by contacting the acid with (I) in the presence of air. (I) is useful for green flavor synthesis or plant hormone synthesis (claimed).

(I) is useful in baking and in a detergent, for cross-linking of proteins, oil, starch, plant-fiber or mixture of these in the presence of fatty acid, oil or fats, to change the texture of physical properties of foodstuff or to control flavor for fat and oil, to produce polymers made of natural stuff beside food use, for synthesis of plastic fiber or resin, for synthesis of flavor compounds such as hexanal or hexenal together as synergy effect of hydroperoxide lyase, to improve the yield of flavor compounds, or as a bleaching agent for bleaching foodstuffs such as flour, oil or marine food including carotenoids or carotenoid-like pigments, for bleaching detergents for phenolic, carotenoid or fatty stains or dinginess, or for bleaching waste water or textile dye or dye for pulp industry in waste water or changing of dye texture. (VI) is useful for screening purposes.

ADVANTAGE - (I) has good stability in the presence of anionic surfactants.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	RWMC	Draw. D
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☐ 36. Document ID: US 20020142407 A1

L1: Entry 36 of 48

File: DWPI

Oct 3, 2002

DERWENT-ACC-NO: 2003-197989

DERWENT-WEEK: 200319

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TITLE: Cleaving 13-hydroperoxide of linoleic acid into aldehyde and oxocarboxylic acid, and preparing n-hexanal from 13-hydroperoxy-octadeca-9,11-dienoic acid, using recombinant fatty acid 13-hydroperoxide lyase

INVENTOR: BRASH, A R; GASKIN, D J H ; SLUSARENKO, A J ; TIJET, N ; WASPI, U ; WHITEHEAD, I M

PRIORITY-DATA: 2000US-0578533 (May 24, 2000), 2002US-0042991 (January 9, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US <u>20020142407 A1</u>	October 3, 2002		035	C12P007/40

INT-CL (IPC): C12 P 7/02; C12 P 7/40; C12 P 7/42

ABSTRACTED-PUB-NO: US20020142407A

BASIC-ABSTRACT:

NOVELTY - Method of cleaving (M) 13-hydroperoxide (I) of linoleic or alpha -linolenic acid into 6C-aldehyde (A) and 12C-oxocarboxylic acid (B), involves the use of recombinant protein produced by a vector containing nucleic acid encoding fatty acid 13-hydroperoxide lyase (HPOL).

DETAILED DESCRIPTION - Method of cleaving (M) 13-hydroperoxide (I) of linoleic or alpha -linolenic acid into 6C-aldehyde (A) and 12C-oxocarboxylic acid (B), involves the use of recombinant protein produced by a vector containing nucleic acid

encoding fatty acid 13-hydroperoxide lyase (HPOL) comprising a sequence (S1) of Thr-Tyr-Pro-Pro-Ser-Leu-Ser and (S2) of 476, 480, 183, or 488 amino acids, given in the specification.

An INDEPENDENT CLAIM is also included for a method of preparing n-hexanal, 3-(Z)-hexen-1-al, 2-(E)-hexen-1-al, 6C-aldehyde, 12C-oxocarboxylic acid, or their corresponding alcohols from 13-hydroperoxy-octadeca-9,11-dienoic acid or 13 hydroperoxy-octadeca-9,11,15-trienoic acid, that involves:

(i) contacting the 13-hydroperoxy-octadeca-9,11-dienoic acid or the 13 hydroperoxy-octadeca-9,11,15-trienoic acid with recombinant protein, thus converting the 13-hydroperoxy-octadeca-9,11-dienoic acid into n-hexanal, 6C-aldehyde, or 12C-oxocarboxylic acid, or 13 hydroperoxy-octadeca-9,11,15-trienoic acid into 3-(Z)-hexen-1-al;

(ii) either, recovering the n-hexanal, 3-(Z)-hexen-1-al, 6C-aldehyde, or 12C-oxocarboxylic acid, reducing the n-hexanal into n-hexanol, the 3-(Z)-hexen-1-al into 3-(Z)-hexen-1-ol, 6C-aldehyde or 12C-oxocarboxylic acid into their corresponding alcohols, and recovering the hexanol or 3-(Z)-hexen-1-ol, or alcohols, or isomerizing the 3-(Z)-hexen-1-al, 6C-aldehyde, or 12C-oxocarboxylic acid, under temperature and pH conditions effective to obtain 2-(E)-hexen-1-al or their isomeric forms; and

(iii) either recovering the formed 2-(E)-hexen-1-al or their isomeric forms, or reducing the 2-(E)-hexen-1-al to 2-(E)-hexen-1-ol or the isomeric forms, and recovering the 2-(E)-hexen-1-ol or their corresponding alcohols from the medium.

USE - The method is useful for cleaving 13-hydroperoxide of linoleic or alpha - linolenic acid into a 6C-aldehyde and a 12C-oxocarboxylic acid, and for preparing n-hexanal, 3-(Z)-hexen-1-al, 2-(E)-hexen-1-al, 6C-aldehyde, 12C-oxocarboxylic acid, or their corresponding alcohols from 13-hydroperoxy-octadeca-9,11-dienoic acid or 13 hydroperoxy-octadeca-9,11-,15-trienoic acid (claimed).

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw D
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☐ 37. Document ID: US 20020098570 A1

L1: Entry 37 of 48

File: DWPI

Jul 25, 2002

DERWENT-ACC-NO: 2003-090076

DERWENT-WEEK: 200308

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TITLE: Novel isolated fatty acid hydroperoxide lyase has activity for both 9-hydroperoxide substrates and 13-hydroperoxide substrates, useful for cleaving 9-hydroperoxylinoleic acid or 13-hydroperoxylinoleic acid

INVENTOR: BRASH, A; TIJET, N ; WHITEHEAD, I M

PRIORITY-DATA: 2000US-0537357 (March 29, 2000), 2001US-0884260 (June 19, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020098570 A1	July 25, 2002		052	C12N009/88

INT-CL (IPC): C07 H 21/04; C12 N 5/04; C12 N 9/88; C12 P 21/02

ABSTRACTED-PUB-NO: US20020098570A

## BASIC-ABSTRACT:

NOVELTY - An isolated fatty acid hydroperoxide lyase (I) having activity for both 9-hydroperoxide substrates and 13-hydroperoxide substrates, where  $K_m$  and  $V_{max}$  of the lyase for 9-hydroperoxylinolenic acid are greater than  $K_m$  and  $V_{max}$  of the lyase for 9-hydroperoxylinoleic acid, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) an isolated nucleic acid (II) that encodes (I);
- (2) a vector (III) comprising (II); and
- (3) a cell (IV) containing an exogenous nucleic acid comprising (II).

USE - (I) is useful for cleaving a (9S,10E,12Z) 9-hydroperoxyoctadeca-10,11-2-dienoic acid or a (9S,10E,12Z,15Z) 9-hydroperoxyoctadeca-10,12,15-trienoic acid into a C9-aldehyde and a C9-oxononanoic acid by contacting (I) with the (9S,10E,12Z) 9-hydroperoxyoctadeca-10,12-dienoic acid or the (9S,10E,12Z,15Z) 9-hydroperoxyoctadeca-10,12,15-trienoic acid. (I) is useful for cleaving a (9Z,11E,13S) 13-hydroperoxyoctadeca-9,11-dienoic acid or a (9Z,11E,13S,15Z) 13-hydroperoxyoctadeca-9,11,15-trienoic acid into a C6-aldehyde and a C12-oxocarboxylic acid, by contacting (I) with the (9Z,11E,13S) 13-hydroperoxyoctadeca-9,11-dienoic acid or the (9Z,11E,13S,15Z) 9-hydroperoxyoctadeca-9,11,15-trienoic acid. (I) is useful for preparing 3-(Z)-nonenal, (3Z,6Z)-nonadienal, 2-(E)-nonenal, (2E,6Z)-nonadienal, or their corresponding alcohols from (9S,10E,12Z) 9-hydroperoxyoctadeca-10,12-dienoic acid or (9S,10E,12Z,15Z) 9-hydroperoxyoctadeca-10,12,15-trienoic acid, by contacting the (9S,10E,12Z) 9-hydroperoxyoctadeca-10,12-dienoic acid or (9S,10E,12Z,15Z) 9-hydroperoxyoctadeca-10,12,15-trienoic acid with (I), thus converting the (9S,10E,12Z) 9-hydroperoxyoctadeca-10,12-dienoic acid into 3(Z)-nonenal or the (9S,10E,12Z,15Z) 9-hydroperoxyoctadeca-10,12,15-trienoic acid into (3Z,6Z)-nonadienal, and recovering the 3-(Z)-nonenal or (3Z,6Z)-nonadienal, reducing the 3-(Z)-nonenal into 3(Z)-nonenol or the (3Z,6Z)-nonadienal into (3Z,6Z)-nonadienol and recovering the 3-(Z)-nonenol or (3Z,6Z)-nonadienol, or isomerizing the 3-(Z)-nonenal or (3Z,6Z)-nonadienal under temperature and pH conditions effective to obtain 2-(E)-nonenal or (2E,2Z)-nonadienal and either recovering the formed 2-(E)-nonenal or (2E,2Z)-nonadienal or reducing the 2-(E)-nonenal to 2-(E)-nonenol or the (2E,2Z)-nonadienal to (2E,2Z)-nonadienol and recovering 2-(E)-nonenol or (2E,2Z)-nonadienol from the medium. (I) is useful for preparing n-hexanal, 3-(Z)-hexen-1-al, 2-(E)-hexen-1-al, or their corresponding alcohols from (9Z,11E,13S) 13-hydroperoxyoctadeca-9,11-dienoic acid or (9Z,11E,13S,15Z) 13-hydroperoxyoctadeca-9,11,15-trienoic acid, by contacting (9Z,11E,13S) 13-hydroperoxyoctadeca-9,11-dienoic acid or (9Z,11E,13S,15Z) 13-hydroperoxyoctadeca-9,11,15-trienoic acid with (I), thus converting (9Z,11E,13S) 13-hydroperoxyoctadeca-9,11-dienoic acid into n-hexanal or (9Z,11E,13S,15Z) 13-hydroperoxyoctadeca-9,11,15-trienoic acid into 3-(Z)-hexen-1-al, and either recovering the n-hexanal or 3-(Z)-hexen-1-al, reducing the n-hexanal into n-hexanol or 3-(Z)-hexen-1-al into 3-(Z)-hexen-1-ol and recovering the n-hexanol or 3-(Z)-hexen-1-ol, or isomerizing the 3-(Z)-hexen-1-al under temperature and pH conditions effective to obtain 2-(Z)-hexen-1-al and either recovering the formed 2-(Z)-hexen-1-al or reducing the 2-(Z)-hexen-1-al to 2-(Z)-hexen-1-ol and recovering the 2-(Z)-hexen-1-ol from the medium (all claimed). (I) is useful for cleaving 9-hydroperoxylinoleic acid, 9-hydroperoxylinolenic acid, 13-hydroperoxylinoleic acid or 13-hydroperoxylinolenic acid.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw De
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☐ 38. Document ID: US 20030163835 A1, WO 200250291 A1, AU 200215773 A, EP 1283890 A1

L1: Entry 38 of 48

File: DWPI

Aug 28, 2003

DERWENT-ACC-NO: 2002-508807

DERWENT-WEEK: 200357

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TITLE: New chimeric construct comprising a regulatory region obtained from a Hydroperoxide Lyase, useful for producing a transgenic organisms, or for regulating the expression of a gene in an organism in the absence of stress treatment

INVENTOR: BATE, N J; BROWN, D C W ; GLEDDIE, S ; HEGEDUS, D ; SCHAFER, U

PRIORITY-DATA: 2000US-256625P (December 18, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030163835 A1	August 28, 2003		000	A01K067/33
WO 200250291 A1	June 27, 2002	E	041	C12N015/82
AU 200215773 A	July 1, 2002		000	C12N015/82
EP 1283890 A1	February 19, 2003	E	000	C12N015/82

INT-CL (IPC): A01 H 1/00; A01 K 67/33; C12 N 5/04; C12 N 5/06; C12 N 9/88; C12 N 15/82

ABSTRACTED-PUB-NO: WO 200250291A

BASIC-ABSTRACT:

NOVELTY - A chimeric construct, which comprises a regulatory region obtained from a Hydroperoxide Lyase (HPL) gene in operative association with a heterologous gene, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a transgenic organism comprising the chimeric construct;
- (2) a transgenic seed comprising the chimeric construct;
- (3) a transgenic cell culture comprising the chimeric construct; and
- (4) a method of regulating the expression of a gene in an organism comprising:
  - (a) transforming the organism with the chimeric construct to produce a transformed organism; and
  - (b) growing the transformed organism.

USE - The chimeric construct is useful for producing a transgenic organism, seeds or cell cultures. The construct is also useful for regulating the expression of a gene in an organism, in the absence of any wound or stress treatment.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 39. Document ID: DE 10028639 C2, WO 200194606 A2, DE 10028639 A1, AU 200179652 A

L1: Entry 39 of 48

File: DWPI

Nov 6, 2003

DERWENT-ACC-NO: 2002-147676

DERWENT-WEEK: 200374

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TITLE: Preparation of C9 aldehydes, alcohols and their esters, for use as aroma and flavoring agents, from unsaturated fatty acids, comprises modifying specific enzyme activities in e.g. plants

INVENTOR: BERNDT, E; FEUSSNER, I

PRIORITY-DATA: 2000DE-1028639 (June 9, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 10028639 C2	November 6, 2003		000	C12P007/24
WO 200194606 A2	December 13, 2001	G	034	C12P007/02
DE 10028639 A1	December 20, 2001		000	C12P007/24
AU 200179652 A	December 17, 2001		000	C12P007/02

INT-CL (IPC): C12 N 9/02; C12 N 9/88; C12 N 15/82; C12 P 7/02; C12 P 7/24; C12 P 7/62

ABSTRACTED-PUB-NO: WO 200194606A

BASIC-ABSTRACT:

NOVELTY - Preparation of C9 aldehydes (I) or C9 alcohols (II), or their esters (IIa), from polyunsaturated fatty acids (III) having double bonds at at least positions Delta 6 and Delta 9, particularly C18 acids and specifically gamma - linolenic or stearidonic.

DETAILED DESCRIPTION - Preparation of C9 aldehydes (I) or C9 alcohols (II), or their esters (IIa), from polyunsaturated fatty acids (III) comprises that nucleic acid encoding plant or microbial proteins with 9-lipoxygenase (A) and 13-hydroperoxide lyase (B) activities are incorporated into a prokaryotic or eukaryotic cell under control of regulatory elements, and (A) and (B) are expressed. Recombinant (A) converts (III) to 9-hydroperoxides and these are converted, by (B), to (I). Optionally (I) are reduced to (II) and these optionally converted to (IIa), particularly with acetic acid. (I), (II) and (IIa) may then be recovered from the cells. INDEPENDENT CLAIMS are also included for the following:

- (1) preparation of (I), (II) and (IIa) by reacting (III) with (A) and (B), optionally in presence of reducing agent and acid; and
- (2) preparation of transgenic plants or plant cells with increased content of (I), (II) or (IIa).

USE - (I), (II) and (IIa) are flavor and aroma components of plants.

ADVANTAGE - Transgenic plants with increased contents of (I), (II) and (IIa) have improved aroma/flavor properties.



Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw D
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☐ 40. Document ID: JP 2003528613 W, US 6271018 B1, WO 200173075 A2, EP 1268819 A2

L1: Entry 40 of 48

File: DWPI

Sep 30, 2003

DERWENT-ACC-NO: 2001-520311

DERWENT-WEEK: 200365

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TITLE: Isolated nucleic acid for the production of flavors and aromas, encodes fatty acid hydroperoxide lyase present in melon and having activity for both 9-hydroperoxide and 13-hydroperoxide substrates

INVENTOR: BRASH, A R; TIJET, N ; WHITEHEAD, I M ; BRASH, A

PRIORITY-DATA: 2000US-0537357 (March 29, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2003528613 W	September 30, 2003		088	C12N015/09
US 6271018 B1	August 7, 2001		050	C12N001/20
WO 200173075 A2	October 4, 2001	E	000	C12N015/60
EP 1268819 A2	January 2, 2003	E	000	C12N015/60

INT-CL (IPC): C07 H 21/04; C12 N 1/15; C12 N 1/19; C12 N 1/20; C12 N 1/21; C12 N 5/10; C12 N 9/88; C12 N 15/00; C12 N 15/09; C12 N 15/60; C12 N 15/63; C12 P 7/04; C12 P 7/24; C12 P 7/42; C12 Q 1/527

ABSTRACTED-PUB-NO: US 6271018B

BASIC-ABSTRACT:

NOVELTY - An isolated nucleic acid encoding a fatty acid hydroperoxide lyase present in melon, is new. The lyase has activity for both 9-hydroperoxide substrates and 13-hydroperoxide substrates, where Km and Vmax of the lyase for 9-hydroxyperoxylinolenic acid are greater than that for the 9-hydroxyperoxylinoleic acid.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a plasmid vector comprising a promoter functionally linked to the inventive nucleic acid; and
- (2) a cell containing an exogeneous nucleic acid comprising the inventive nucleic acid.

USE - For the production of flavors and aromas.

ADVANTAGE - The invention provides purified and recombinant muskmelon 9-HPL nucleic acids, thus avoiding the requirement of large fresh fruits, the desired enzyme activities are not dilute in the sources employed, and the large-volume batch process.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Drawn De
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Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs	Generate OACS
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Terms	Documents
hydroperoxide lyase	48

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[Generate OACS](#)

**Search Results - Record(s) 41 through 48 of 48 returned.**

☐ 41. Document ID: WO 200050575 A2

**Using default format because multiple data bases are involved.**

L1: Entry 41 of 48

File: DWPI

Aug 31, 2000

DERWENT-ACC-NO: 2000-572086

DERWENT-WEEK: 200053

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TITLE: Cucumber fatty acid 9-hydroperoxide lyase cDNA and protein, useful for transforming plants to provide increased disease resistance and to alter volatile composition of plants

INVENTOR: MATSUI, K

PRIORITY-DATA: 1999US-121968P (February 26, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200050575 A2	August 31, 2000	E	075	C12N009/00

INT-CL (IPC): C12 N 9/00

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	RMK	Draw. De
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☐ 42. Document ID: US 20030167510 A1, WO 200022145 A2, AU 200013090 A, US 20010007156 A1, US 6444874 B1

L1: Entry 42 of 48

File: DWPI

Sep 4, 2003

DERWENT-ACC-NO: 2000-317996

DERWENT-WEEK: 200359

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TITLE: Hydroperoxide lyase protein and polynucleotides for producing transgenic plants with increased disease resistance and for treating pathogen mediated contamination of stored food and feed crops

INVENTOR: DUVICK, J; GILLIAM, J ; DUVICK, J P

PRIORITY-DATA: 1998US-104084P (October 13, 1998), 1999US-0417704 (October 13, 1999), 2001US-0779429 (February 8, 2001), 2002US-0193748 (July 11, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>US 20030167510 A1</u>	September 4, 2003		000	A01H005/00
<u>WO 200022145 A2</u>	April 20, 2000	E	053	C12N015/60
<u>AU 200013090 A</u>	May 1, 2000		000	
<u>US 20010007156 A1</u>	July 5, 2001		000	A01H005/00
<u>US 6444874 B1</u>	September 3, 2002		000	A01H005/00

INT-CL (IPC): A01 H 5/00; A01 H 5/10; C12 N 5/04; C12 N 9/88; C12 N 15/29; C12 N 15/60; C12 N 15/82

ABSTRACTED-PUB-NO: US 6444874B

BASIC-ABSTRACT:

NOVELTY - An isolated hydroperoxide lyase (HPL) protein (I), its variants or a sequence comprising at least 15 contiguous amino acids, are new.

DETAILED DESCRIPTION - (I) has a fully defined sequence of 502 amino acids (given in the specification).

INDEPENDENT CLAIMS are also included for the following:

- (1) An isolated nucleic acid sequence (II) encoding (I), having a defined polynucleotide sequence of 1835 bp (given in the specification), its variants or a sequence comprising at least 15 contiguous nucleotides;
- (2) an expression cassette (III) comprising (II) linked to a promoter that drives expression in a plant cell;
- (3) a plant or cell transformed with (II);
- (4) a seed of the plant in (3).

USE - Nucleotide sequence (II) encoding a HPL protein is useful for enhancing disease resistance, manipulating levels of volatile compounds and for modulating expression of HPL in a plant cell (claimed). Nucleotide sequence encoding a maize HPL protein is useful for modulating levels of flavor molecules in a plant cell and for treating pathogen-mediated contamination of feed or food crops (claimed).

ABSTRACTED-PUB-NO:

US20010007156A EQUIVALENT-ABSTRACTS:

NOVELTY - An isolated hydroperoxide lyase (HPL) protein (I), its variants or a sequence comprising at least 15 contiguous amino acids, are new.

DETAILED DESCRIPTION - (I) has a fully defined sequence of 502 amino acids (given in the specification).

INDEPENDENT CLAIMS are also included for the following:

- (1) An isolated nucleic acid sequence (II) encoding (I), having a defined polynucleotide sequence of 1835 bp (given in the specification), its variants or a sequence comprising at least 15 contiguous nucleotides;
- (2) an expression cassette (III) comprising (II) linked to a promoter that drives expression in a plant cell;
- (3) a plant or cell transformed with (II);

(4) a seed of the plant in (3).

USE - Nucleotide sequence (II) encoding a HPL protein is useful for enhancing disease resistance, manipulating levels of volatile compounds and for modulating expression of HPL in a plant cell (claimed). Nucleotide sequence encoding a maize HPL protein is useful for modulating levels of flavor molecules in a plant cell and for treating pathogen-mediated contamination of feed or food crops (claimed).

NOVELTY - An isolated hydroperoxide lyase (HPL) protein (I), its variants or a sequence comprising at least 15 contiguous amino acids, are new.

DETAILED DESCRIPTION - (I) has a fully defined sequence of 502 amino acids (given in the specification).

INDEPENDENT CLAIMS are also included for the following:

(1) An isolated nucleic acid sequence (II) encoding (I), having a defined polynucleotide sequence of 1835 bp (given in the specification), its variants or a sequence comprising at least 15 contiguous nucleotides;

(2) an expression cassette (III) comprising (II) linked to a promoter that drives expression in a plant cell;

(3) a plant or cell transformed with (II);

(4) a seed of the plant in (3).

USE - Nucleotide sequence (II) encoding a HPL protein is useful for enhancing disease resistance, manipulating levels of volatile compounds and for modulating expression of HPL in a plant cell (claimed). Nucleotide sequence encoding a maize HPL protein is useful for modulating levels of flavor molecules in a plant cell and for treating pathogen-mediated contamination of feed or food crops (claimed).

WO 200022145A

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. De
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☐ 43. Document ID: MX 2000002004 A1, WO 200000627 A2, EP 1032694 A2, KR 2001023362 A, CN 1321196 A

L1: Entry 43 of 48

File: DWPI

Nov 1, 2001

DERWENT-ACC-NO: 2000-147270

DERWENT-WEEK: 200279

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TITLE: Novel fatty acid hydroperoxide lyase nucleic acid sequences used to modify volatile aldehydes in plant tissues

INVENTOR: MATSUI, K

PRIORITY-DATA: 1999US-121965P (February 26, 1999), 1998US-090924P (June 26, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
MX 2000002004 A1	November 1, 2001		000	A01H005/00

<u>WO 200000627 A2</u>	January 6, 2000	E	053	C12N015/82
<u>EP 1032694 A2</u>	September 6, 2000	E	000	C12N015/82
<u>KR 2001023362 A</u>	March 26, 2001		000	C12N015/82
<u>CN 1321196 A</u>	November 7, 2001		000	C12N015/82

INT-CL (IPC): A01 H 5/00; C12 N 1/21; C12 N 9/88; C12 N 15/29; C12 N 15/60; C12 N 15/82; C12 Q 1/68

ABSTRACTED-PUB-NO: WO 200000627A

BASIC-ABSTRACT:

NOVELTY - Isolated hydroperoxide lyase (HPO lyase or HPOL) polynucleotides (I) derived from Arabidopsis (Ia), tomato (Ib), or cucumber (Ic), all sequences given in the specification, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a construct comprising (I) joined to a heterologous nucleotide sequence;
- (2) a method for obtaining (I), comprising obtaining amplification products from a PCR reaction using an oligonucleotide selected from 11 sequences (I-XI) of 17-21 residues, e.g. (I), (IV), (VI), and (XI);
- (3) a PCR amplification product comprising an oligonucleotide selected from 12 sequences (XII-XXIII) of 29-34 residues, e.g. (XII), (XIV), (XVIII), and (XXII);
- (4) a construct comprising a DNA sequence capable of directing transcription in a host cell, linked to a nucleotide sequence encoding HPOL comprising an amino acid sequence selected from HPOL1S (PGSYG), HPOL2S (QPLEEI), HPOL2AS, HPOL3S (GFNAYGG), HPOL3AS, HPOL4S (YQPLVM), HPOL4AS, HPOL5S (VFDEPE), HPOL5AS, HPOL6AS (NGPQTG), and HPOL7AS (NKQCAAKD), wherein the HPOL is not a banana or bell pepper HPOL;
- (5) increasing the resistance of a plant to a plant pathogen, comprising expressing HPOL from the construct of (1) or (4);
- (6) increasing the volatile composition of a plant, comprising expressing HPOL from the construct of (1) or (4);
- (7) an isolated nucleic acid sequence encoding a HPOL with activity towards fatty acid 9-hydroperoxides;
- (8) a construct comprising a promoter functional in a host cell, the sequence of (7), and a transcriptional termination sequence;
- (9) increasing the resistance of a plant to a plant pathogen, comprising expressing HPOL from the construct of (8);
- (10) increasing the volatile composition of a host cell (preferably a plant or microbial (preferably yeast) cell), comprising expressing HPOL from the construct of (8).

5'-ATNCCNGGNWSNTAYGG-3' (I);

5'-GGNTTYAAYGCNTWYGGNGG-3' (IV);

5'-TAYCARCCNYTNGTNATG-3' (VI);

5'-CYTTNGCNGCRCAYTGYTTRTT-3' (XI);

1KMC10-1: 5'-CGGTGGAGATCCTCGCCACCGGTGCCGACCC-3' (XII);  
3KMC17-1: 5'-TCCAGCAGCGCTGCCCCCTTCTCTCCCCGG-3'; (XIV);  
7KMC17-3: 5'-CCGGGGAGAGAAAGGGGCAGCGCTGCTGG-3'; (XVIII); and  
11KMT15-3: 5'-GAAACACTTAGGCTTAGTCCACCAGTACCAAGTC-3' (XXII).

ACTIVITY - Anti-pathogenic; antibacterial.

MECHANISM OF ACTION - Gene transfer.

The hydroperoxide lyase (HPO lyase or HPOL) forms short chain aldehydes and oxo-acids from fatty acid hydroperoxides.

USE - The hydroperoxide lyase (HPO lyase or HPOL) polynucleotides are used as a source of probes and primers to isolate full length or homologous HPOL sequences. Constructs comprising HPOL polynucleotides are used for increased or decreased expression of HPOL, especially in plants involved in the production of vegetable oils for edible and industrial use as well as seed, fruit or vegetable crops, e.g. rapeseed, sunflower, safflower, cotton, soybean, peanut, coconut and oil palms, tomato, strawberry, bell pepper and melon. The methods may also be used to modify the volatile composition of a cell (claimed), e.g. to produce transgenic plants with increased production of short-chain volatile aldehydes in fruits and tissues, and to produce plants with improved green note and/or melon note flavor characteristics and lipid peroxidation. The methods may also be used to produce plant with increased resistance to plant pathogens (claimed). Transgenic plants expressing the HPOL of the invention may exhibit an enhanced hypersensitive-reaction response in response to pathogen attack due to increased production of aldehydes involved in the response. These aldehydes have also been shown to be effective anti-bacterial agents, and may also be involved in a general wounding response.

ADVANTAGE - None given.

DESCRIPTION OF DRAWING(S) - The figure provides the results of the spectrophotometric assay of the cucumber 9-HPO lyase expressed from Escherichia coli using linoleic acid 13-hydroperoxide and linoleic acid 9-hydroperoxide substrates.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw. D
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☐ 44. Document ID: WO 9958648 A2, BR 9910414 A, EP 1080205 A2, US 6200794 B1

L1: Entry 44 of 48

File: DWPI

Nov 18, 1999

DERWENT-ACC-NO: 2000-039100

DERWENT-WEEK: 200160

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TITLE: Recombinant guava fatty acid 13-hydroperoxide lyase, used in, e.g. fruit flavors

INVENTOR: BRASH, A R; GASKIN, D J H ; SLUSARENKO, A J ; TIJET, N ; WAESPI, U ;  
WHITEHEAD, I M ; WASPI, U

PRIORITY-DATA: 1998US-0078173 (May 13, 1998)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>WO 9958648 A2</u>	November 18, 1999	E	064	C12N009/00
<u>BR 9910414 A</u>	September 4, 2001		000	C12N009/00
<u>EP 1080205 A2</u>	March 7, 2001	E	000	C12N015/60
<u>US 6200794 B1</u>	March 13, 2001		000	C12N009/88

INT-CL (IPC): C07 H 21/04; C12 N 1/14; C12 N 1/19; C12 N 1/20; C12 N 1/21; C12 N 9/00; C12 N 9/88; C12 N 15/00; C12 N 15/60; C12 N 15/70; C12 N 15/81; C12 P 7/04; C12 P 7/24; C12 P 7/40

ABSTRACTED-PUB-NO: US 6200794B

## BASIC-ABSTRACT:

NOVELTY - An isolated protein comprising a fatty acid 13-hydroperoxide lyase (13-HPOL) is new.

DETAILED DESCRIPTION - (A) An isolated protein comprising 13-HPOL comprises an amino acid sequence (I):

ThrTyrProProSerLeuSer (I)

INDEPENDENT CLAIMS are also included for the following:

- (1) an isolated nucleic acid (NA) comprising NA encoding the protein as in (A);
- (2) an isolated NA which specifically hybridizes with a 1431 bp sequence (Psidium guajava; guava) under stringent conditions and which does not hybridize at the stringent conditions to a 1443 or 1638 bp sequence (Capsicum annum (green pepper) and Musa sp. (banana) sequences, respectively);
- (3) a vector for the expression of a P. guajava 13-HPOL comprising NA as above;
- (4) a cell containing an exogenous NA as above;
- (5) a method of preparing n-hexanal, 3-(Z)-hexen-1-al, 2-(E)-hexen-1-al, or their corresponding alcohol's from 13-hydroperoxy-octadeca-9,11-dienoic acid or 13-hydroperoxy-octadeca-9,11,15-trienoic acid; and
- (6) a method of expressing a recombinant protein produced by the cell of (4), comprising optimizing active lyase function of the recombinant protein by culturing the cells in the absence of isopropyl beta -D-thiogalactopyranoside (all sequences are given in the specification).

USE - The recombinant 13-HPOL can be used to cleave a 13-hydroperoxide of linoleic or alpha -linoleic acid into a C6-aldehyde and a C12-oxocarboxylic acid. The 13-HPOL can also be used to prepare n-hexanal, 3-(Z)-hexen-1-al, 2-(E)-hexen-1-al, or their corresponding alcohols from 13-hydroperoxy-octadeca-9,11-dienoic acid or 13-hydroperoxy-octadeca-9,11,15-trienoic acid. N-hexanal, hexan-1-ol, 2-(E)-hexen-1-al, 2-(E)-hexen-1-ol and 3-(Z)-hexen-1-ol (also known as pipol), are used widely in flavors, particularly fruit flavors, to impart a fresh green character. The green notes are also essential for fruit aroma and are used extensively in the aroma industry.

ADVANTAGE - The recombinant guava 13-HPOL protein overcomes problems associated with supply of the enzyme required for industrial processes. Previously this enzyme



has been obtained from fresh fruit, which is limited to the growing season of the fruit and requires the process to be operated in a country where the fruit is cheaply and freely available. Additionally the sources that are employed provide a diluted enzyme activity, so that large amounts of soy flour, guava puree and yeast have to be used. The large-volume batch process does not make maximum use of the 13-HPOL catalytic activity so that large amounts of residual organic material is generated.

ABSTRACTED-PUB-NO:

WO 9958648A EQUIVALENT-ABSTRACTS:

NOVELTY - An isolated protein comprising a fatty acid 13-hydroperoxide lyase (13-HPOL) is new.

DETAILED DESCRIPTION - (A) An isolated protein comprising 13-HPOL comprises an amino acid sequence (I):

ThrTyrProProSerLeuSer (I)

INDEPENDENT CLAIMS are also included for the following:

- (1) an isolated nucleic acid (NA) comprising NA encoding the protein as in (A);
- (2) an isolated NA which specifically hybridizes with a 1431 bp sequence (Psidium guajava; guava) under stringent conditions and which does not hybridize at the stringent conditions to a 1443 or 1638 bp sequence (Capsicum annum (green pepper) and Musa sp. (banana) sequences, respectively);
- (3) a vector for the expression of a P. guajava 13-HPOL comprising NA as above;
- (4) a cell containing an exogenous NA as above;
- (5) a method of preparing n-hexanal, 3-(Z)-hexen-1-al, 2-(E)-hexen-1-al, or their corresponding alcohol's from 13-hydroperoxy-octadeca-9,11-dienoic acid or 13-hydroperoxy-octadeca-9,11,15-trienoic acid; and
- (6) a method of expressing a recombinant protein produced by the cell of (4), comprising optimizing active lyase function of the recombinant protein by culturing the cells in the absence of isopropyl beta -D-thiogalactopyranoside (all sequences are given in the specification).

USE - The recombinant 13-HPOL can be used to cleave a 13-hydroperoxide of linoleic or alpha -linoleic acid into a C6-aldehyde and a C12-oxocarboxylic acid. The 13-HPOL can also be used to prepare n-hexanal, 3-(Z)-hexen-1-al, 2-(E)-hexen-1-al, or their corresponding alcohols from 13-hydroperoxy-octadeca-9,11-dienoic acid or 13-hydroperoxy-octadeca-9,11,15-trienoic acid. N-hexanal, hexan-1-ol, 2-(E)-hexen-1-al, 2-(E)-hexen-1-ol and 3-(Z)-hexen-1-ol (also known as pipol), are used widely in flavors, particularly fruit flavors, to impart a fresh green character. The green notes are also essential for fruit aroma and are used extensively in the aroma industry.

ADVANTAGE - The recombinant guava 13-HPOL protein overcomes problems associated with supply of the enzyme required for industrial processes. Previously this enzyme has been obtained from fresh fruit, which is limited to the growing season of the fruit and requires the process to be operated in a country where the fruit is cheaply and freely available. Additionally the sources that are employed provide a diluted enzyme activity, so that large amounts of soy flour, guava puree and yeast have to be used. The large-volume batch process does not make maximum use of the 13-HPOL catalytic activity so that large amounts of residual organic material is generated.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw De
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☐ 45. Document ID: US 5695973 A

L1: Entry 45 of 48

File: DWPI

Dec 9, 1997

DERWENT-ACC-NO: 1998-041302

DERWENT-WEEK: 199804

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TITLE: Isolated non-yeast mould *Geotrichum candidum* which produces alcohol dehydrogenase - can be used as yeast substitute in preparation of alcohol(s) for industrial use, in alcoholic beverages production, etc.

INVENTOR: SUBBIAH, V

PRIORITY-DATA: 1996US-0674920 (July 3, 1996)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5695973 A	December 9, 1997		006	C12P007/02

INT-CL (IPC): C12 N 1/00; C12 P 7/02

ABSTRACTED-PUB-NO: US 5695973A

## BASIC-ABSTRACT:

An isolated mould, which produces alcohol dehydrogenase, is *Geotrichum candidum* IMI 369326 (I). Also claimed are: (1) a biologically pure culture for converting leaf aldehyde(s) to leaf alcohols consisting of (I); (2) conversion of a leaf aldehyde to a leaf alcohol comprising contacting the aldehyde with (I), under conditions to support the conversion reaction, and (3) a method for providing a green note compound by: (a) contacting unsaturated fatty acid, plant biomass having active levels of lipoxygenase and hydroperoxide lyase enzymes, and the non-yeast mould *Geotrichum candidum* IMI 369326 which produces alcohol dehydrogenase, in the presence of an aqueous liquid under conditions sufficient to: (i) provide release of lipoxygenase and hydroperoxide lyase from the plant biomass, and (ii) provide reaction of the fatty acid with the lipoxygenase, hydroperoxide lyase and alcohol dehydrogenase to provide green note compound; (b) collecting the aqueous phase containing the green note compound, and (c) separating green note compound from the aqueous phase.

The non-yeast mould is contacted simultaneously with the fatty acid and the plant biomass at least 5 minutes after the fatty acid and the plant biomass have begun to react. The mould is derived from kale. The fatty acid is linolenic acid. The green note compound separated in step (c) is *cis*-3-hexen-ol, *trans*-2-hexen-1-ol, *trans*-3-hexen-1-ol, 1-hexanol, *cis*-3-penten-3-ol and *cis*-2-penten-1-ol. The plant biomass consists of alfalfa. The collection step (b) is performed on an ion exchange resin.

USE - (I) can be used as yeast substitute in the processes for the preparation of alcohols for industrial use (e.g. solvents or substrates for synthesis) and for the preparation of alcoholic beverages, such as beer or wine. The green note compounds exhibit organoleptic characteristics such as fresh or grassy and can be used to sharpen and enhance flavoured products, such as those having fruit flavours.

ADVANTAGE - The desired green note alcohols are obtained in higher yields and higher purity than prior art methods. The non-yeast mould does not produce enolase, which interferes with the reduction reaction catalysed by alcohol dehydrogenase, during aldehyde to alcohol reduction reaction.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw. D
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☐ 46. Document ID: EP 801133 A2, US 6238898 B1, JP 10033185 A, US 6008034 A

L1: Entry 46 of 48

File: DWPI

Oct 15, 1997

DERWENT-ACC-NO: 1997-491986

DERWENT-WEEK: 200132

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TITLE: Recombinant version of banana hydroperoxide lyase enzyme - useful for production of green note compounds, especially cis-3-hexenol used in odorants and flavourants

INVENTOR: HAEUSLER, A; LERCH, K ; MUHEIM, A ; SILKE, N

PRIORITY-DATA: 1996EP-0115335 (September 25, 1996), 1996EP-0105856 (April 15, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>EP 801133 A2</u>	October 15, 1997	E	017	C12N015/60
<u>US 6238898 B1</u>	May 29, 2001		000	C12P007/02
<u>JP 10033185 A</u>	February 10, 1998		014	C12N015/09
<u>US 6008034 A</u>	December 28, 1999		000	C07H021/04

INT-CL (IPC): A23 L 1/226; C07 H 21/04; C11 B 9/00; C12 N 1/16; C12 N 1/19; C12 N 9/88; C12 N 15/09; C12 N 15/60; C12 P 7/02; C12 P 7/04; C12 P 7/24; C12 P 7/40; C12 N 1/19; C12 R 1:865; C12 N 9/88; C12 R 1:865

ABSTRACTED-PUB-NO: EP 801133A

BASIC-ABSTRACT:

New isolated DNA sequences (I) encoding proteins with hydroperoxide (HPO) lyase activity or fragments thereof are claimed.

Also claimed are: (1) a vector containing (I); (2) a prokaryotic, yeast, plant or insect host cell transformed with the vector of (1); and (3) recombinant proteins with HPO lyase activity encoded by (I).

USE - The DNA sequences are used for the production of 'green note compounds' (useful as fragrances and/or flavours) by treating a fatty acid hydroperoxide with a recombinant protein as above and treating the resulting aromatic aldehyde with an isomerase and/or alcohol dehydrogenase. Especially 13-(S)-hydroperoxide lonolenic acid is treated with a recombinant HPO lyase to give cis-3-hexenal which can be treated with an alcohol dehydrogenase to give cis-3-hexenol.

ABSTRACTED-PUB-NO:

US 6008034A EQUIVALENT-ABSTRACTS:

New isolated DNA sequences (I) encoding proteins with hydroperoxide (HPO) lyase activity or fragments thereof are claimed.

Also claimed are: (1) a vector containing (I); (2) a prokaryotic, yeast, plant or insect host cell transformed with the vector of (1); and (3) recombinant proteins with HPO lyase activity encoded by (I).

USE - The DNA sequences are used for the production of ''green note compounds'' (useful as fragrances and/or flavours) by treating a fatty acid hydroperoxide with a recombinant protein as above and treating the resulting aromatic aldehyde with an isomerase and/or alcohol dehydrogenase. Especially 13-(S)-hydroperoxide lonolenic acid is treated with a recombinant HPO lyase to give cis-3-hexenal which can be treated with an alcohol dehydrogenase to give cis-3-hexenol.

US 6238898B

New isolated DNA sequences (I) encoding proteins with hydroperoxide (HPO) lyase activity or fragments thereof are claimed.

Also claimed are: (1) a vector containing (I); (2) a prokaryotic, yeast, plant or insect host cell transformed with the vector of (1); and (3) recombinant proteins with HPO lyase activity encoded by (I).

USE - The DNA sequences are used for the production of ''green note compounds'' (useful as fragrances and/or flavours) by treating a fatty acid hydroperoxide with a recombinant protein as above and treating the resulting aromatic aldehyde with an isomerase and/or alcohol dehydrogenase. Especially 13-(S)-hydroperoxide lonolenic acid is treated with a recombinant HPO lyase to give cis-3-hexenal which can be treated with an alcohol dehydrogenase to give cis-3-hexenol.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. Data
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☐ 47. Document ID: WO 9526413 A1, US 6274358 B1, AU 9519852 A, EP 752006 A1

L1: Entry 47 of 48

File: DWPI

Oct 5, 1995

DERWENT-ACC-NO: 1995-358368

DERWENT-WEEK: 200148

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TITLE: Prepn. of green note cpds., partic. cis-3-hexen-1-ol - by reacting an unsatd. fatty acid, alcohol dehydrogenase and plant biomass contg. lipxygenase and hydroperoxide lyase

INVENTOR: GARGER, S J; HOLTZ, R B ; MCCULLOCH, M J ; PHILLIPS, H F ; TEAGUE, R K ; PHILLIPS, H

PRIORITY-DATA: 1994US-0218165 (March 25, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9526413 A1	October 5, 1995	E	039	C12P007/04
US 6274358 B1	August 14, 2001		000	C12P007/04

AU 9519852 A	October 17, 1995		000	C12P007/04
EP 752006 A1	January 8, 1997	E	000	C12P007/04

INT-CL (IPC): C12 P 7/04

ABSTRACTED-PUB-NO: US 6274358B

BASIC-ABSTRACT:

The following are claimed: (A) a method for providing a green note cpd. comprising: (a) providing an unsatd. fatty acid (FA); (b) providing plant biomass (PB) having active levels of lipoxygenase (LO) and hydroperoxide lyase (HL) enzymes; (c) providing active alcohol dehydrogenase (ADH); (d) providing a mixt. by simultaneously contacting the FA, PB and ADH in the presence of an aq. liq. under conditions sufficient to: (i) provide release of LO and HL from the PB and (ii) provide reaction of the FA, HL and ADH to provide a green note cpd.; (e) collecting the aq. phase contg. the green note cpd. and (f) sepg. the green note cpd. from the aq. phase; and (B) a method for providing cis-3-hexen-1-ol (CH), comprising: (a) carrying out steps (a)-(d) as in (A) to provide CH; (b) collecting the aq. phase contg. CH, the aq. phase contg. greater than 400 mug of CH per g of PB provided, and (c) sepg. CH from the aq. phase.

USE - The green note cpds., partic. CH, can be used to sharpen and enhance flavoured prods. such as those prods. having fruit flavours.

ADVANTAGE - The process can provide yields of green note cpds. in excess of 1100 mug/g of plant material employed. When the FA is pure linolenic acid, the green note prod. obtd. is often >99% CH.

ABSTRACTED-PUB-NO:

WO 9526413A EQUIVALENT-ABSTRACTS:

The following are claimed: (A) a method for providing a green note cpd. comprising: (a) providing an unsatd. fatty acid (FA); (b) providing plant biomass (PB) having active levels of lipoxygenase (LO) and hydroperoxide lyase (HL) enzymes; (c) providing active alcohol dehydrogenase (ADH); (d) providing a mixt. by simultaneously contacting the FA, PB and ADH in the presence of an aq. liq. under conditions sufficient to: (i) provide release of LO and HL from the PB and (ii) provide reaction of the FA, HL and ADH to provide a green note cpd.; (e) collecting the aq. phase contg. the green note cpd. and (f) sepg. the green note cpd. from the aq. phase; and (B) a method for providing cis-3-hexen-1-ol (CH), comprising: (a) carrying out steps (a)-(d) as in (A) to provide CH; (b) collecting the aq. phase contg. CH, the aq. phase contg. greater than 400 mu g of CH per g of PB provided, and (c) sepg. CH from the aq. phase.

USE - The green note cpds., partic. CH, can be used to sharpen and enhance flavoured prods. such as those prods. having fruit flavours.

ADVANTAGE - The process can provide yields of green note cpds. in excess of 1100 mu g/g of plant material employed. When the FA is pure linolenic acid, the green note prod. obtd. is often >99% CH.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. D
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☐ 48. Document ID: FR 2696192 A1, US 5705372 A, WO 9408028 A1, EP 662141 A1, JP 08504084 W

L1: Entry 48 of 48

File: DWPI

Apr 1, 1994

DERWENT-ACC-NO: 1994-128289  
DERWENT-WEEK: 199808  
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TITLE: Enzymatic prodn. of ionone and aldehyde flavours - by kneading polyunsatd. fatty acid and carotene sources with lipooxygenase and hydroperoxide lyase source

INVENTOR: BELIN, J; DUMONT, B ; ROBERT, F

PRIORITY-DATA: 1992FR-0011513 (September 28, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
FR 2696192 A1	April 1, 1994		022	C12P007/24
US 5705372 A	January 6, 1998		008	C12P023/00
WO 9408028 A1	April 14, 1994		000	C12P007/24
EP 662141 A1	July 12, 1995	F	000	C12P007/24
JP 08504084 W	May 7, 1996		026	C12P007/24

INT-CL (IPC): C07C 31/125; C07C 33/025; C07C 47/02; C07C 47/20; C07C 49/203; C07C 49/21; C07D 301/02; C07M 7/00; C11B 9/00; C11B 9/02; C11C 1/04; C12P 7/04; C12P 7/24; C12P 7/26; C12P 17/02; C12P 17/06; C12P 23/00

ABSTRACTED-PUB-NO: FR 2696192A

BASIC-ABSTRACT:

Prodn. using ionones and 6-10C aldehydes comprises kneading a high-viscosity concd. mixt. of a lipooxygenase and hydroperoxide lyase source (I), a natural polyunsatd. fatty acid source (II) and a natural carotene source (III) in a reactor supplied with air and/or O2 at at least atmospheric pressure.

Pref. the reaction mixt. is in the form of a paste. The air and/or O2 supply rate is 1-2 vol./vol. per min. The pressure is up to 0.8 MPa. The temp. is 10-60 (esp. 20-40) deg.C. The kneader speed is 60-200 rpm. The reaction time is 5-35 (esp. 10-24) hr. The prods. comprise optically active alpha-ionone, beta-ionone, n-hexanol, 2(E)-hexenal, 2(E),4(Z)-decadienal, 2(E),4(E)-decadienal, 5,6-epoxy-beta-ionone and dihydro-actinidiolide. The prods. are isolated by steam distn. or supercritical CO2 extraction and are purified by fractional distn.

USE/ADVANTAGE - The prods. are useful as natural food flavours. Use of a highly concd. reaction mixt. (with a low water content) accelerates the development of the enzymatic reactions.

ABSTRACTED-PUB-NO:

US 5705372A EQUIVALENT-ABSTRACTS:

Prodn. using ionones and 6-10C aldehydes comprises kneading a high-viscosity concd. mixt. of a lipooxygenase and hydroperoxide lyase source (I), a natural polyunsatd. fatty acid source (II) and a natural carotene source (III) in a reactor supplied with air and/or O2 at at least atmospheric pressure.

Pref. the reaction mixt. is in the form of a paste. The air and/or O2 supply rate is 1-2 vol./vol. per min. The pressure is up to 0.8 MPa. The temp. is 10-60 (esp. 20-40) deg.C. The kneader speed is 60-200 rpm. The reaction time is 5-35 (esp. 10-24) hr. The prods. comprise optically active alpha-ionone, beta-ionone, n-hexanol, 2(E)-hexenal, 2(E),4(Z)-decadienal, 2(E),4(E)-decadienal, 5,6-epoxy-beta-ionone and dihydro-actinidiolide. The prods. are isolated by steam distn. or supercritical CO2

extraction and are purified by fractional distn.

USE/ADVANTAGE - The prods. are useful as natural food flavours. Use of a highly concd. reaction mixt. (with a low water content) accelerates the development of the enzymatic reactions.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMOC	Draw. D
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Terms	Documents
hydroperoxide lyase	48

Display Format:

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### Search Results - Record(s) 1 through 20 of 32 returned.

☐ 1. Document ID: US 20040137590 A1**Using default format because multiple data bases are involved.**

L2: Entry 1 of 32

File: PGPB

Jul 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040137590

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040137590 A1

TITLE: Allene oxide cyclase gene and use thereof for producing jasmonic acid

PUBLICATION-DATE: July 15, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ziegler, J?ouml;rg	Halle/Saale		DE	
Stenzel, Irene	Halle/Saale		DE	
Hause, Bettina	Halle/Saale		DE	
Wasternack, Claus	Halle/Saale		DE	

US-CL-CURRENT: [435/189](#); [435/320.1](#), [435/419](#), [435/69.1](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw D
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☐ 2. Document ID: US 20040088752 A1

L2: Entry 2 of 32

File: PGPB

May 6, 2004

PGPUB-DOCUMENT-NUMBER: 20040088752

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040088752 A1

TITLE: Divinyl ether synthase gene, and protein and uses thereof

PUBLICATION-DATE: May 6, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Howe, Gregg A.	East Lansing	MI	US	
Itoh, Aya	Tsuruoka-city		JP	

US-CL-CURRENT: [800/278](#); [435/193](#), [435/320.1](#), [435/419](#), [435/69.1](#), [536/23.2](#), [800/286](#)



Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 3. Document ID: US 20040053379 A1

L2: Entry 3 of 32

File: PGPB

Mar 18, 2004

PGPUB-DOCUMENT-NUMBER: 20040053379

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040053379 A1

TITLE: Method of producing polyunsaturated fatty acids, novel biosynthesis genes,  
and novel plant expression constructs

PUBLICATION-DATE: March 18, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lerchl, Jens	Svalov		SE	
Renz, Andreas	Limburgerhof		DE	
Heinz, Ernst	Hamburg		DE	
Domergue, Frederic	Steindamm		DE	
Zahringer, Ulrich	Ahrensburg		DE	

US-CL-CURRENT: 435/134; 435/252.3, 800/17, 800/281

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 4. Document ID: US 20040049805 A1

L2: Entry 4 of 32

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040049805

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040049805 A1

TITLE: Method for the expression of biosynthetic genes in plant seeds using  
multiple expression constructs

PUBLICATION-DATE: March 11, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lerchl, Jens	Svalov	MS	SE	
Duwenig, Elke	Ludwigshafen		DE	
Bischoff, Friedrich	Mainz		DE	
Heinz, Ernst	Hamburg		DE	
Drexler, Hjordis	Hamburg		DE	
Scheffler, Jodi	Oxford		US	

US-CL-CURRENT: [800/281](#); [435/320.1](#), [435/419](#), [435/468](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 5. Document ID: US 20040010822 A1

L2: Entry 5 of 32

File: PGPB

Jan 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040010822

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040010822 A1

TITLE: Hydroperoxyde lyases

PUBLICATION-DATE: January 15, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
McGonigle, Brian	Wilmington	DE	US	

US-CL-CURRENT: [800/289](#); [435/232](#), [435/320.1](#), [435/419](#), [435/69.1](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 6. Document ID: US 20040010817 A1

L2: Entry 6 of 32

File: PGPB

Jan 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040010817

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040010817 A1

TITLE: Plant acyl-CoA synthetases

PUBLICATION-DATE: January 15, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Shockey, Jay M.	Mandeville	LA	US	
Schnurr, Judy	Coon Rapids	MN	US	
Browse, John A.	Palouse	WA	US	

US-CL-CURRENT: [800/281](#); [435/193](#), [435/320.1](#), [435/419](#), [435/69.1](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 7. Document ID: US 20040009476 A9

L2: Entry 7 of 32

File: PGPB

Jan 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040009476  
PGPUB-FILING-TYPE: corrected  
DOCUMENT-IDENTIFIER: US 20040009476 A9

TITLE: Stress-regulated genes of plants, transgenic plants containing same, and methods of use

PUBLICATION-DATE: January 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Harper, Jeffrey F.	Del Mar	CA	US	
Kreps, Joel	Carlsbad	CA	US	
Wang, Xun	San Diego	CA	US	
Zhu, Tong	San Diego	CA	US	

US-CL-CURRENT: 435/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 8. Document ID: US 20040002105 A1

L2: Entry 8 of 32

File: PGPB

Jan 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040002105  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20040002105 A1

TITLE: Methods of identifying genes for the manipulation of triterpene saponins

PUBLICATION-DATE: January 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Dixon, Richard A.	Ardmore	OK	US	
Achnine, Lahoucine	Ardmore	OK	US	
Suzuki, Hideyuki	Kisarazu-shi	OK	JP	
He, Xian-Zhi	Ardmore	OK	US	
Wang, Liangjiang	Ardmore		US	

US-CL-CURRENT: 435/6; 435/7.2, 800/278

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 9. Document ID: US 20030232781 A1

L2: Entry 9 of 32

File: PGPB

Dec 18, 2003

PGPUB-DOCUMENT-NUMBER: 20030232781

PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030232781 A1

TITLE: Modulation of gene expression using insulator binding proteins

PUBLICATION-DATE: December 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Wolffe, Alan P.			US	
Wolffe, Elizabeth J.			US	

US-CL-CURRENT: 514/44; 424/94.61, 435/455

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 10. Document ID: US 20030217388 A1

L2: Entry 10 of 32

File: PGPB

Nov 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030217388  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030217388 A1

TITLE: Methods of controlling reproduction in plants

PUBLICATION-DATE: November 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Feyereisen, Rene	Valbonne	CA	FR	
Park, Joon-Hyun	Westlake Village		US	

US-CL-CURRENT: 800/286

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 11. Document ID: US 20030180777 A1

L2: Entry 11 of 32

File: PGPB

Sep 25, 2003

PGPUB-DOCUMENT-NUMBER: 20030180777  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030180777 A1

TITLE: Rapid identification of transcriptional regulatory domains

PUBLICATION-DATE: September 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bartsevich, Victor	Albany	CA	US	

US-CL-CURRENT: 435/6; 435/226, 435/7.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 12. Document ID: US 20030167510 A1

L2: Entry 12 of 32

File: PGPB

Sep 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030167510  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030167510 A1

TITLE: Hydroperoxide lyase gene from maize and methods of use

PUBLICATION-DATE: September 4, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Duvick, Jon	Des Moines	IA	US	
Gilliam, Jacob	Norwalk	IA	US	

US-CL-CURRENT: 800/278; 435/412, 800/320.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 13. Document ID: US 20030166141 A1

L2: Entry 13 of 32

File: PGPB

Sep 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030166141  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030166141 A1

TITLE: Regulation of endogenous gene expression in cells using zinc finger proteins

PUBLICATION-DATE: September 4, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Case, Casey C.	San Mateo	CA	US	
Cox, George N. III	Louisville	CO	US	
Eisenberg, Stephen P.	Boulder	CO	US	
Liu, Qiang	Foster City	CA	US	
Rebar, Edward J.	El Cerrito	CA	US	

US-CL-CURRENT: 435/69.1; 435/320.1, 435/325, 435/366, 435/456, 702/19

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 14. Document ID: US 20030163835 A1

L2: Entry 14 of 32

File: PGPB

Aug 28, 2003

PGPUB-DOCUMENT-NUMBER: 20030163835

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030163835 A1

TITLE: Hydrogen peroxide lyase regulatory region

PUBLICATION-DATE: August 28, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Schafer, Ulrike	Saskatoon	IA	CA	
Hegedus, Dwayne	Saskatoon		CA	
Bate, Nicholas J	Urbandale		US	
Gleddie, Stephen	Ottawa		CA	
Brown, Daniel C W	Ilderton		CA	

US-CL-CURRENT: 800/8; 435/232, 435/320.1, 435/348, 435/419, 435/455, 435/468,  
435/69.1, 800/288

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 15. Document ID: US 20030108880 A1

L2: Entry 15 of 32

File: PGPB

Jun 12, 2003

PGPUB-DOCUMENT-NUMBER: 20030108880

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030108880 A1

TITLE: Modified zinc finger binding proteins

PUBLICATION-DATE: June 12, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Rebar, Edward	El Cerrito	CA	US	
Jamieson, Andrew	San Francisco	CA	US	

US-CL-CURRENT: 435/6; 435/226, 435/320.1, 435/325, 435/69.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 16. Document ID: US 20030097676 A1

L2: Entry 16 of 32

File: PGPB

May 22, 2003

PGPUB-DOCUMENT-NUMBER: 20030097676  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030097676 A1

TITLE: Plant acyl-CoA synthetases

PUBLICATION-DATE: May 22, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Shockey, Jay M.	Pullman	WA	US	
Schnurr, Judy	Pullman	WA	US	
Browse, John A.	Pullman	WA	US	

US-CL-CURRENT: 800/278; 435/320.1, 435/419, 536/23.6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 17. Document ID: US 20030087817 A1

L2: Entry 17 of 32

File: PGPB

May 8, 2003

PGPUB-DOCUMENT-NUMBER: 20030087817  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030087817 A1

TITLE: Regulation of endogenous gene expression in cells using zinc finger proteins

PUBLICATION-DATE: May 8, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Cox, George Norbert III	Louisville	CO	US	
Case, Casey Christopher	San Mateo	CA	US	
Eisenberg, Stephen P.	Boulder	CO	US	
Jarvis, Eric Edward	Boulder	CO	US	
Spratt, Sharon Kaye	Vacaville	CA	US	

US-CL-CURRENT: 514/12; 435/455

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 18. Document ID: US 20030082552 A1

L2: Entry 18 of 32

File: PGPB

May 1, 2003

PGPUB-DOCUMENT-NUMBER: 20030082552  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030082552 A1

TITLE: Modulation of gene expression using localization domains

PUBLICATION-DATE: May 1, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Wolffe, Alan P.	Richmond	CA	US	
Urnov, Fyodor	Richmond	CA	US	
Lai, Albert	Berkeley	CA	US	
Raschke, Eva	San Francisco	CA	US	
Wolffe, Elizabeth J.			US	

US-CL-CURRENT: 435/6; 435/317.1, 435/455

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw. D.
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☐ 19. Document ID: US 20030049649 A1

L2: Entry 19 of 32

File: PGPB

Mar 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030049649  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030049649 A1

TITLE: Targeted modification of chromatin structure

PUBLICATION-DATE: March 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Wolffe, Alan P.	San Pablo	CA	US	
Wolffe, Elizabeth J.	Richmond	CA	US	
Collingwood, Trevor			US	
Snowden, Andrew			US	

US-CL-CURRENT: 435/6; 435/199, 435/455, 435/468

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw. D.
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☐ 20. Document ID: US 20030044957 A1

L2: Entry 20 of 32

File: PGPB

Mar 6, 2003

PGPUB-DOCUMENT-NUMBER: 20030044957  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030044957 A1



TITLE: Zinc finger proteins for DNA binding and gene regulation in plants

PUBLICATION-DATE: March 6, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Jamieson, Andrew	San Francisco	CA	US	
Li, Guofu	Albany	CA	US	

US-CL-CURRENT: [435/219](#); [435/320.1](#), [435/419](#), [435/69.1](#), [536/23.2](#), [800/278](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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hydroperoxide lyase	32

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**Search Results - Record(s) 21 through 32 of 32 returned.**

☐ 21. Document ID: US 20030037357 A1

**Using default format because multiple data bases are involved.**

L2: Entry 21 of 32

File: PGPB

Feb 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030037357

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030037357 A1

TITLE: Plant acyl-CoA synthetases

PUBLICATION-DATE: February 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Shockey, Jay M.	Pullman	WA	US	
Schnurr, Judy	Pullman	WA	US	
Browse, John A.	Pullman	WA	US	

US-CL-CURRENT: [800/278](#); [435/320.1](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des
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☐ 22. Document ID: US 20030018993 A1

L2: Entry 22 of 32

File: PGPB

Jan 23, 2003

PGPUB-DOCUMENT-NUMBER: 20030018993

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030018993 A1

TITLE: Methods of gene silencing using inverted repeat sequences

PUBLICATION-DATE: January 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Gutterson, Neal	Oakland	CA	US	
Oeller, Paul	Berkeley	CA	US	

US-CL-CURRENT: [800/286](#); [435/455](#), [800/294](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 23. Document ID: US 20020164575 A1

L2: Entry 23 of 32

File: PGPB

Nov 7, 2002

PGPUB-DOCUMENT-NUMBER: 20020164575

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020164575 A1

TITLE: Gene identification

PUBLICATION-DATE: November 7, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Case, Casey C.	San Mateo	CA	US	
Urnov, Fyodor	Richmond	CA	US	

US-CL-CURRENT: 435/4; 435/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 24. Document ID: US 20020160940 A1

L2: Entry 24 of 32

File: PGPB

Oct 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020160940

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020160940 A1

TITLE: Modulation of endogenous gene expression in cells

PUBLICATION-DATE: October 31, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Case, Casey C.	San Mateo	CA	US	
Wolffe, Alan	Richmond	CA	US	
Urnov, Fyodor	Richmond	CA	US	
Lai, Albert	Richmond	CA	US	
Snowden, Andrew	Alameda	CA	US	
Tan, Siyuan	El Cerrito	CA	US	
Gregory, Philip			US	

US-CL-CURRENT: 514/6; 435/455

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 25. Document ID: US 20020160378 A1

L2: Entry 25 of 32

File: PGPB

Oct 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020160378

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020160378 A1

TITLE: Stress-regulated genes of plants, transgenic plants containing same, and methods of use

PUBLICATION-DATE: October 31, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Harper, Jeffrey F.	Del Mar	CA	US	
Kreps, Joel	Carlsbad	CA	US	
Wang, Xun	San Diego	CA	US	
Zhu, Tong	San Diego	CA	US	

US-CL-CURRENT: [435/6](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des
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☐ 26. Document ID: US 20020142407 A1

L2: Entry 26 of 32

File: PGPB

Oct 3, 2002

PGPUB-DOCUMENT-NUMBER: 20020142407

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020142407 A1

TITLE: Guava (Psidium guajava) 13-hydroperoxide lyase and uses thereof

PUBLICATION-DATE: October 3, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Whitehead, Ian Michael	Geneva	TN	CH	
Slusarenko, Alan John	Hergenrath	TN	BE	
Waspi, Urs	Zurich		CH	
Gaskin, Duncan James Horatio	Reading		GB	
Brash, Alan Richard	Brentwood		US	
Tijet, Nathalie	Nashville		US	

US-CL-CURRENT: [435/146](#); [435/147](#), [435/155](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des
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☐ 27. Document ID: US 20020115215 A1

L2: Entry 27 of 32

File: PGPB

Aug 22, 2002

PGPUB-DOCUMENT-NUMBER: 20020115215

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020115215 A1

TITLE: Targeted modification of chromatin structure

PUBLICATION-DATE: August 22, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Wolffe, Alan P.	Orinda	CA	US	
Collingwood, Trevor	San Pablo	CA	US	

US-CL-CURRENT: 435/455; 435/468, 435/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 28. Document ID: US 20020098570 A1

L2: Entry 28 of 32

File: PGPB

Jul 25, 2002

PGPUB-DOCUMENT-NUMBER: 20020098570

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020098570 A1

TITLE: Muskmelon (Cucumis melo) hydroperoxide lyase and uses thereof

PUBLICATION-DATE: July 25, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Brash, Alan	Brentwood	TN	US	
Tijet, Nathalie	Tucson	AZ	US	
Whitehead, Ian M.	Singapore		SG	

US-CL-CURRENT: 435/232; 435/320.1, 435/410, 435/69.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 29. Document ID: US 20020094529 A1

L2: Entry 29 of 32

File: PGPB

Jul 18, 2002

PGPUB-DOCUMENT-NUMBER: 20020094529

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020094529 A1

TITLE: Gene identification

PUBLICATION-DATE: July 18, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Case, Casey C.	San Mateo	CA	US	
Urnov, Fyodor	Richmond	CA	US	

US-CL-CURRENT: 435/6; 435/4, 435/455

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 30. Document ID: US 20020081614 A1

L2: Entry 30 of 32

File: PGPB

Jun 27, 2002

PGPUB-DOCUMENT-NUMBER: 20020081614

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020081614 A1

TITLE: Functional genomics using zinc finger proteins

PUBLICATION-DATE: June 27, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Case, Casey C.	San Mateo	CA	US	
Zhang, Lei	San Francisco	CA	US	

US-CL-CURRENT: 435/6; 435/7.21, 702/19

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 31. Document ID: US 20020048814 A1

L2: Entry 31 of 32

File: PGPB

Apr 25, 2002

PGPUB-DOCUMENT-NUMBER: 20020048814

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020048814 A1

TITLE: Methods of gene silencing using poly-dT sequences

PUBLICATION-DATE: April 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Oeller, Paul	San Diego	CA	US	

US-CL-CURRENT: 435/455; 435/456, 435/468, 800/279

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 32. Document ID: US 20010007156 A1

L2: Entry 32 of 32

File: PGPB

Jul 5, 2001

PGPUB-DOCUMENT-NUMBER: 20010007156

PGPUB-FILING-TYPE: new-utility

DOCUMENT-IDENTIFIER: US 20010007156 A1

TITLE: Hydroperoxide lyase polypeptides

PUBLICATION-DATE: July 5, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Duvick, Jon	Des Moines	IA	US	
Gilliam, Jacob	Norwalk	IA	US	

US-CL-CURRENT: 800/320.1; 435/232

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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